

SMITHSONIAN MATHEMATICAL TABLES

HYPERBOLIC FUNCTIONS

PREPARED BY

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ADVERTISEMENT.

Among the early publications of the Smithsonian Institution was a very important volume of meteorological tables by Dr. Arnold Guyot. They were so widely used by geographers and physicists as well as by meteorologists that when the fourth edition was exhausted it was decided to recast the entire work and publish three separate volumes, Meteorological Tables, Geographical Tables, and Physical Tables, each of which have now passed through several editions.

In the application of the data of these volumes to the study of natural phenomena certain mathematical tables beside those included in ordinary tables of logarithms are urgently needed in order to save recurrent computation on the part of observers and investigators. It was therefore decided to publish the present volume of Mathematical Tables, on Hyperbolic Functions.

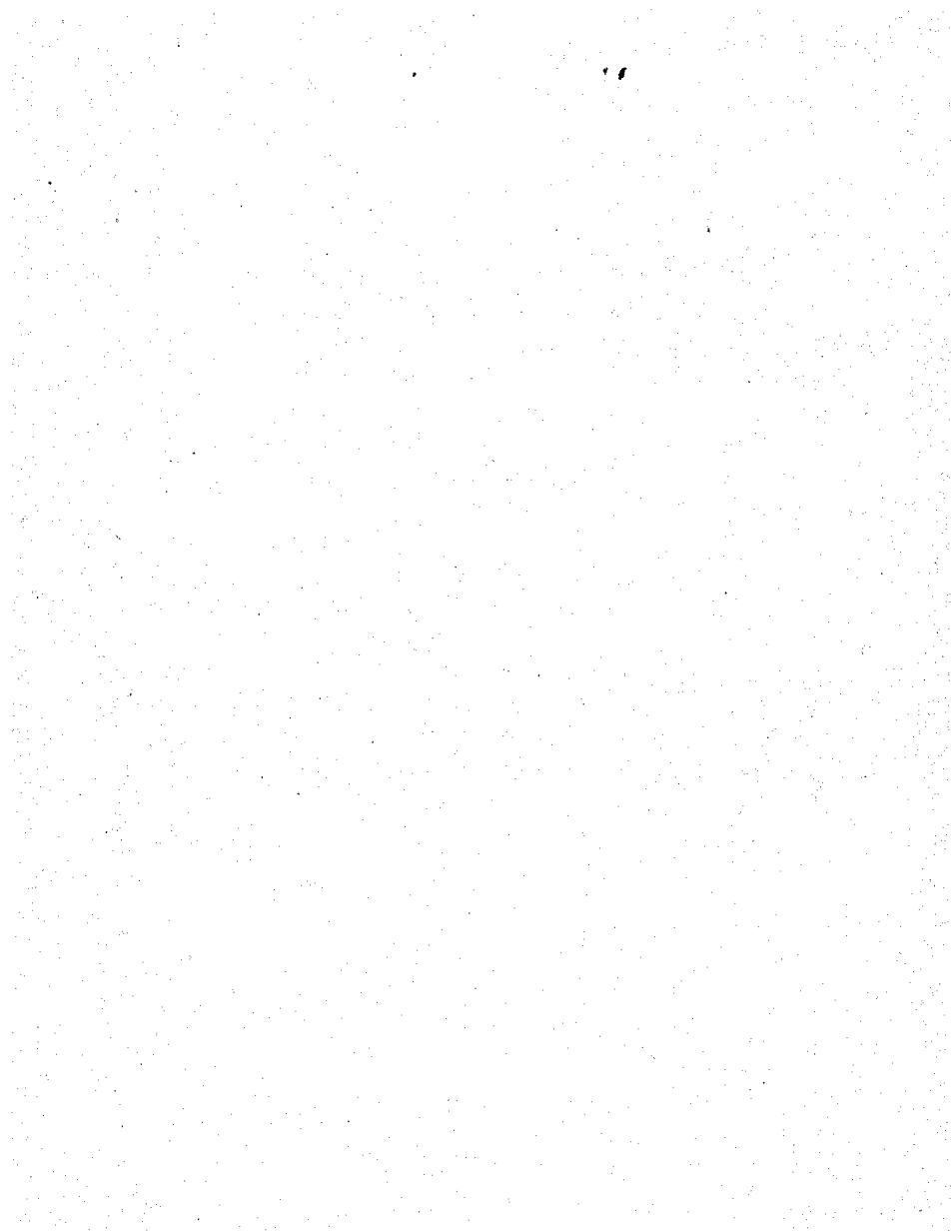
Hyperbolic Functions are extremely useful in every branch of pure physics and in the applications of physics whether to observational and experimental sciences or to technology. Thus whenever an entity (such as light, velocity, electricity, or radioactivity) is subject to gradual extinction or absorption, the decay is represented by some form of Hyperbolic Functions. Mercator's projection is likewise computed by Hyperbolic Functions. Whenever mechanical strains are regarded as great enough to be measured they are most simply expressed in terms of Hyperbolic Functions. Hence geological deformations invariably lead to such expression, and it is for that reason that Messrs. Becker and Van Orstrand, who are in charge of the physical work of the United States Geological Survey, have been led to prepare this volume.

CHARLES D. WALCOTT, *Secretary.*

WASHINGTON, D. C., April, 1909.

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DEFINITIONS AND FORMULAS.

The hyperbolic functions are named the hyperbolic sine, cosine, tangent, cotangent, secant, and cosecant from their close analogy to the circular functions, the tangent being the ratio of the hyperbolic sine to the cosine and the other three functions being reciprocals of these, as in circular trigonometry. They are usually denoted by adding *h* to the symbols of the circular functions, as $\cosh u$ for the hyperbolic cosine of *u*, $\sinh u$ for the hyperbolic sine of *u*, etc.¹

Historically speaking, the hyperbolic functions were evolved from studies of the hyperbola. They might have been developed from the geometry of the ellipse or the catenary or that of other curves. These functions, however, may be considered independently of any geometrical interpretation and can be derived from very fundamental functional theorems.

At least two methods have been devised of defining circular and hyperbolic functions analytically. One of these is due to Mr. Yvon Villarceau,² and is so extremely brief that it can be given here in a somewhat modified form.

It has long been known that

$$e^{2m\pi i} = 1; \quad e^u + 2m\pi i = e^u; \quad e^{(u + 2m\pi)i} = e^{iu}.$$

The second of these equations has a single imaginary period, $2i\pi$, and the third a single real period, 2π . Hence every exponential e^u in which *u* is real has a single imaginary period, $2i\pi$, and every exponential with the same base, but with an imaginary exponent, has a real period, 2π . Now, all real purely circular functions may be expressed in terms of constants and exponentials with purely imaginary exponents, and all real hyperbolic functions may be expressed in terms of constants and exponentials with exclusively real exponents.

Hence hyperbolic functions may be defined as the singly periodic exponential functions with real exponents. The circular functions are then the singly periodic exponential functions with imaginary exponents.

It remains to be considered how, from this point of view, the hyperbolic functions of complex variables are to be regarded. The question almost answers itself; for

$$e^{x+iy} = e^x \cdot e^{iy},$$

¹ More compendious and convenient, but less usual, is the notation employed by B. de Saint-Venant, *sinh u*, *cosh u*, *tanh u*.

² Comptes Rendus. Paris, vol. 83, 1876, p. 594.

which is evidently the product of two functions—one circular, the other hyperbolic. Such functions have a real period and an imaginary one, but since they are single-valued they are not elliptic functions.

The circular and hyperbolic functions being defined as above, it is merely as a matter of convenience that a few of the simpler combinations of exponentials receive special names, as sine, cosine, etc.

The other analytical method of generalizing the two classes of functions is due to Edward Lucas,¹ and is too long to be given here in full, but the method may be indicated. If a and b are the two roots of the equation

$$x^2 - Px + Q = 0,$$

where P and Q are positive or negative whole numbers, then two functions may be defined as follows:

$$U_n \equiv \frac{a^n - b^n}{a - b}; \quad V_n \equiv a^n + b^n,$$

and these functions are related by the equation

$$U_{2n} = U_n V_n.$$

Lucas develops and studies these functions, limiting n at first to whole positive numbers. He finds that all the theorems resulting from this study are converted into those of ordinary trigonometry when U is replaced by $2 \sin n$ and V by $2 \cos n$. He infers that between the limits 1 and minus 1, n may be replaced by any real value, and shows that the theorems dealing with U and V when translated into trigonometric formulas on this assumption can be verified. By substituting for n an imaginary argument, the hyperbolic functions also are found to be comprehended in the general functions U and V .

Both the circular and hyperbolic functions may further be regarded as integrals of the equation

$$\frac{d}{dx} \log \frac{d^2 y}{dx^2} = \frac{d}{dx} \log y, \text{ or } \frac{d^2 y}{dx^2} = cy.$$

If $c = a^2$, this gives

$$\frac{y}{a} = Ae^{ax} + Be^{-ax},$$

where A and B are arbitrary constants; so that the integral expression includes $\sinh x$, $\cosh x$, and the sum or difference of these functions.

If $c = -b^2$,

$$\frac{y}{b} = A_1 \cos x + B_1 \sin x.$$

¹ Am. Jour. of Math., vol. 1, 1878, p. 184.

The hyperbolic functions may also be defined geometrically with reference to any hyperbola.

Let $OA = a$, $OB = b$ be the semi-axes of the hyperbola AP , and its conjugate BP' referred to the rectangular axes ox and oy . The argument or independent variable u and its functions are then given by :¹

$$\frac{\text{sector } OAP}{\Delta OAB} \sinh u = \frac{\Delta OAP}{\Delta OAB},$$

$$\cosh u = \frac{\Delta OPB}{\Delta OAB}, \text{ etc.}$$

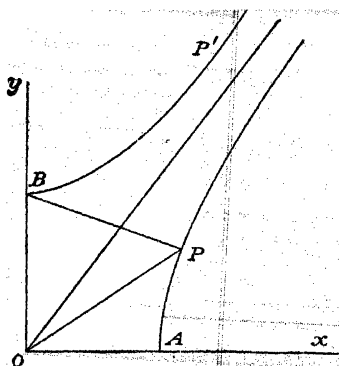


FIG. 1.

The areas of the triangles OAB , OAP , and OPB are respectively $\frac{1}{2}ab$, $\frac{1}{2}ay$ and $\frac{1}{2}bx$, and the area of the sector OAP is found from the equation of the hyperbola,

$$x^2 - \frac{y^2}{b^2} = 1,$$

to be

$$S = \frac{ab}{2} \log \left(\frac{x}{a} + \frac{y}{b} \right).$$

Hence, in accordance with the above definitions,

$$u = \frac{2S}{ab} = \log \left(\frac{x}{a} + \frac{y}{b} \right),$$

$$\sinh u = \frac{y}{b} = \frac{1}{2} (e^u - e^{-u}),$$

$$\cosh u = \frac{x}{a} = \frac{1}{2} (e^u + e^{-u}).$$

Similarly the argument and functions of circular trigonometry are :

$$2S = \frac{\text{arc}}{\text{radius}},$$

$$\sin \theta = \frac{y}{r} = \frac{1}{2} i (e^{i\theta} - e^{-i\theta}),$$

$$\cos \theta = \frac{x}{r} = \frac{1}{2} (e^{i\theta} + e^{-i\theta}).$$

A comparison of the preceding equations shows that there exist between the two sets of arguments and functions many interesting analogies and relations. The arguments are in each case the ratio of two areas, although the argument of the circular functions may also be defined as a ratio of two lines;

¹For definitions which are independent of the position of the sectorial areas see Prof. James McMahon's "Hyperbolic Functions" and a paper "On the Introduction of the Notion of Hyperbolic Functions," by Prof. M. W. Haskell, Bull. Am. Math. Soc., vol. 1, 1894-95.

DEFINITIONS AND FORMULAS.

the hyperbolic functions stand in the same relation to the *equilateral* hyperbola as the circular functions do to the circle; each set of functions may be defined analytically as a particular branch of the theory of the exponential function, and it is possible to pass from the one to the other by means of the imaginary i . For example,

$$\begin{aligned}\sinh u &= -i \sin iu, \\ \cosh u &= \cos iu, \\ \tanh u &= -i \tan iu.\end{aligned}$$

Furthermore, every rational function of the hyperbolic functions and their inverses can be integrated by the help of corresponding known integrals of circular functions. Thus, to find $\int \operatorname{sech} u \, du$ from

$$\int \sec u \, du = \frac{1}{2} \log \frac{1 + \sin u}{1 - \sin u} = \log \frac{1 + \tan \frac{u}{2}}{1 - \tan \frac{u}{2}}$$

substitute iu for u and reduce to the form

$$\int \operatorname{sech} u \, du = \frac{1}{i} \log \frac{1 + i \tanh \frac{u}{2}}{1 - i \tanh \frac{u}{2}}$$

If in this equation $\tanh \frac{u}{2}$ is replaced by y , the second member coincides in form with the expression for $2 \tan^{-1} y$ given below.

Hence

$$\int \operatorname{sech} u \, du = 2 \tan^{-1}(\tanh \frac{u}{2}) = gd \, u.$$

Similarly, when a differential is encountered the integral of which is not to be found in this collection, it is expedient to deduce the corresponding expression in cyclic functions by substitution of ix for x , etc., and then to make a search for its integral.

Most interesting is the relation existing between the formulæ of spherical trigonometry and the formulæ of Lobachevsky's imaginary geometry, hyperbolic geometry, or pseudo-spherical geometry, as it is sometimes called. Lobachevsky defines the

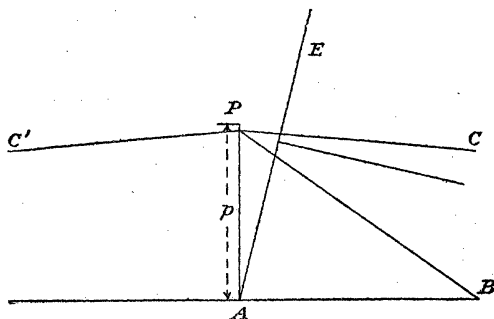


FIG. 2.

angle CPA as the angle of parallelism, the line PC being the limiting position of PB when the distance AB is infinite. In this geometry two parallels, PC

and PC , may be drawn from a point P to a line AB , the sum of the angles of a triangle is less than two right angles, and the angle of parallelism $\Pi(p)$ is dependent upon the perpendicular distance p of the point P from the line AB . If now any line passing through A , such as AE , is extended until the perpendicular erected at its middle point is parallel to AB , the locus of the points E is a boundary curve, and the revolution of this curve about AB or one of its parallels develops a boundary surface. It is upon this surface of constant negative curvature that Lobachevsky imagines a triangle of sides a, b, c and angles A, B, C to be drawn. He establishes as fundamental relations between the sides and angles of this triangle¹

$$\begin{aligned}\sin A \tan \Pi(a) &= \sin B \tan \Pi(b) = \sin C \tan \Pi(c), \\ \sin \Pi(b) \sin \Pi(c) &= \sin \Pi(a) - \cos \Pi(b) \cos \Pi(c) \sin \Pi(a) \cos A, \\ \sin \Pi(a) \cos A &= -\cos B \cos C \sin \Pi(a) + \sin B \sin C,\end{aligned}$$

and also proves that

$$\begin{aligned}\sin \Pi(u) &= (\cos iu)^{-1} = (\cosh u)^{-1}, \\ \tan \Pi(u) &= i (\sin iu)^{-1} = (\sinh u)^{-1}, \\ \cos \Pi(u) &= -i \tan iu = \tanh u.\end{aligned}$$

Hence the preceding equations may be written

$$\begin{aligned}\frac{\sin A}{\sinh a} &= \frac{\sin B}{\sinh b} = \frac{\sin C}{\sinh c}, \\ \cosh a &= \cosh b \cosh c - \sinh b \sinh c \cos A, \\ \cos A &= -\cos B \cos C + \sin B \sin C \cosh a.\end{aligned}$$

These formulas are, in fact, precisely those of spherical trigonometry, in which the real sides a, b, c have been replaced by the imaginaries ia, ib, ic . If the triangle on the boundary surface is infinitesimal, the above equations reduce to the well-known relations between the sides and angles of a triangle on the Euclidean plane. The theorems of non-Euclidean geometry may not therefore be inconsistent with experience, for the largest triangle which we can measure is infinitesimal in comparison with a triangle on the boundary surface. Lobachevsky pointed out that a triangle on a boundary surface would correspond to a triangle connecting three stars in distant parts of the universe, and that the postulates of his geometry, involving as they do the question of the curvature of space, would be capable of experimental proof if the parallaxes of distant stars could be measured with sufficient accuracy.

Lastly, there is an important relation between the numerical values of the circular and hyperbolic functions. If the argument u assumes successive values between 0 and $+\infty$, $\sinh u$ assumes successive values between 0 and $+\infty$ just as $\tan \alpha$ does when α varies from 0 to 90° ; $\cosh u$ assumes values between 1 and $+\infty$ like $\sec \beta$, and $\tanh u$ assumes values between 0 and 1

¹ H. P. Manning's *Non-Euclidean Geometry*, p. 60.

in the same way as $\sin \gamma$. The variation of the hyperbolic functions throughout the entire plane and their similarity to the circular functions between the

limits 0° and 180° is shown in the diagram. Since each of the functions is singly periodic, there must be a single value of α, β, γ corresponding to a particular value of u , such that

$$\begin{aligned}\sinh u &= \tan \alpha, \\ \cosh u &= \sec \beta, \\ \tanh u &= \sin \gamma.\end{aligned}$$

It will be found by substituting in the trigonometric formulæ that $\alpha = \beta = \gamma = \phi$, and the required relations are therefore

$$\begin{aligned}\cosh u &= \sec \phi, \\ \sinh u &= \tan \phi, \\ \tanh u &= \sin \phi.\end{aligned}$$

The angle ϕ which renders it possible to evaluate the hyperbolic functions by means of the circular functions is of great importance in pure and applied mathematics. Some of its properties and applications will be considered in the section on geometrical illustrations. It is called gudemannian u and is written

$$\phi = gd\ u.$$

The following list of formulæ involving the hyperbolic functions might be greatly extended, but it includes the most useful relations.¹

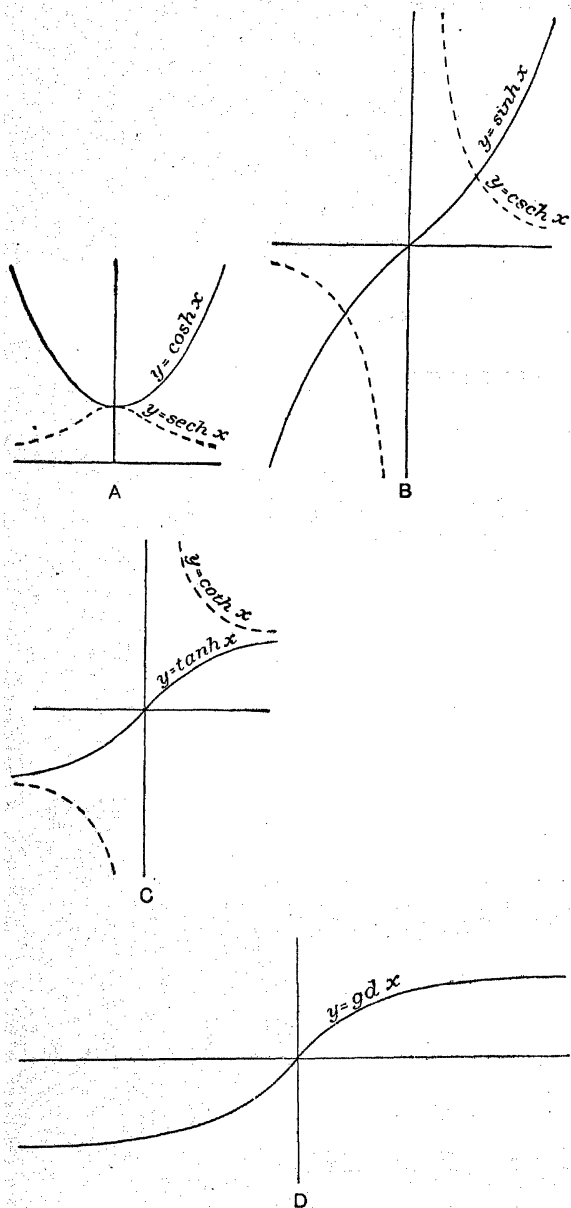


FIG. 3.

¹Taken with additions from Prof. B. O. Peirce's Short Table of Integrals, and Prof. McMahon's Hyperbolic Functions.

A.—RELATIONS BETWEEN HYPERBOLIC AND CIRCULAR FUNCTIONS.

1. $\sinh u = -i \sin iu = \tanh gd u.$
2. $\cosh u = \cos iu = \sec gd u.$
3. $\tanh u = -i \tan iu = \sin gd u.$
4. $\tanh \frac{1}{2} u = \tan \frac{1}{2} gd u.$
5. $e^u = (1 + \sin gd u) \div \cos gd u,$
 $= [1 - \cos (\frac{1}{2} \pi + gd u)] \div \sin (\frac{1}{2} \pi + gd u),$
 $= \tan (\frac{1}{2} \pi + \frac{1}{2} gd u).$
6. $\sinh iu = i \sin u.$
7. $\cosh iu = \cos u.$
8. $\tanh iu = i \tan u.$
9. $\sinh (u \pm iv) = \pm i \sin (v \mp iu),$
 $= \sinh u \cos v \pm i \cosh u \sin v.$
10. $\cosh (u \pm iv) = \cos (v \mp iu),$
 $= \cosh u \cos v \pm i \sinh u \sin v.$
11. $\cosh (m\pi) = \cos m\pi. \quad (m \text{ is an integer.})$
12. $\sinh (2m+1) \frac{1}{2} i\pi = i \sin (2m+1) \frac{1}{2} \pi. \quad (m \text{ is an integer.})$

B.—RELATIONS AMONG THE HYPERBOLIC FUNCTIONS.

13. $\sinh u = \frac{1}{2} (e^u - e^{-u}) = -\sinh (-u) = (\operatorname{csch} u)^{-1}$
 $= 2 \tanh \frac{1}{2} u \div (1 - \tanh^2 \frac{1}{2} u) = \tanh u \div (1 - \tanh^2 u)^{\frac{1}{2}}.$
14. $\cosh u = \frac{1}{2} (e^u + e^{-u}) = \cosh (-u) = (\operatorname{sech} u)^{-1},$
 $= (1 + \tanh^2 \frac{1}{2} u) \div (1 - \tanh^2 \frac{1}{2} u) = 1 \div (1 - \tanh^2 u)^{\frac{1}{2}}.$
15. $\tanh u = (e^u - e^{-u}) \div (e^u + e^{-u}) = -\tanh (-u),$
 $= (\coth u)^{-1} = \sinh u \div \cosh u = (1 - \operatorname{sech}^2 u)^{\frac{1}{2}}.$
16. $\operatorname{sech} u = \operatorname{sech} (-u) = (1 - \tanh^2 u)^{\frac{1}{2}}.$
17. $\operatorname{csch} u = -\operatorname{csch} (-u) = (\coth^2 u - 1)^{\frac{1}{2}}.$
18. $\coth u = -\coth (-u) = (\operatorname{csch}^2 u + 1)^{\frac{1}{2}}.$
19. $\cosh^2 u - \sinh^2 u = 1.$
20. $\sinh \frac{1}{2} u = \sqrt{\frac{1}{2} (\cosh u - 1)}.$
21. $\cosh \frac{1}{2} u = \sqrt{\frac{1}{2} (\cosh u + 1)}.$
22. $\tanh \frac{1}{2} u = (\cosh u - 1) \div \sinh u,$
 $= \sinh u \div (1 + \cosh u) = \sqrt{(\cosh u - 1) \div (\cosh u + 1)}.$
23. $\sinh 2u = 2 \sinh u \cosh u = 2 \tanh u \div (1 - \tanh^2 u).$
24. $\cosh 2u = \cosh^2 u + \sinh^2 u = 2 \cosh^2 u - 1,$
 $= 1 + 2 \sinh^2 u = (1 + \tanh^2 u) \div (1 - \tanh^2 u).$
25. $\tanh 2u = 2 \tanh u \div (1 + \tanh^2 u).$
26. $\sinh 3u = 3 \sinh u + 4 \sinh^3 u.$
27. $\cosh 3u = 4 \cosh^3 u - 3 \cosh u.$
28. $\tanh 3u = (3 \tanh u + \tanh^3 u) \div (1 + 3 \tanh^2 u).$

29. $\sinh nu = n \cosh^{n-1} u \sinh u + \frac{(n)(n-1)(n-2)}{6} \cosh^{n-3} u \sinh^3 u + \dots$
30. $\cosh nu = \cosh^n u + \frac{n(n-1)}{2} \cosh^{n-2} u \sinh^2 u + \dots$
31. $\sinh u + \sinh v = 2 \sinh \frac{1}{2}(u+v) \cosh \frac{1}{2}(u-v).$
32. $\sinh u - \sinh v = 2 \cosh \frac{1}{2}(u+v) \sinh \frac{1}{2}(u-v).$
33. $\cosh u + \cosh v = 2 \cosh \frac{1}{2}(u+v) \cosh \frac{1}{2}(u-v).$
34. $\cosh u - \cosh v = 2 \sinh \frac{1}{2}(u+v) \sinh \frac{1}{2}(u-v).$
35. $\sinh u + \cosh u = (1 + \tanh \frac{1}{2} u) \div (1 - \tanh \frac{1}{2} u).$
36. $(\sinh u + \cosh u)^n = \cosh nu + \sinh nu.$
37. $\tanh u + \tanh v = \sinh(u+v) \div \cosh u \cosh v.$
38. $\tanh u - \tanh v = \sinh(u-v) \div \cosh u \cosh v.$
39. $\coth u + \coth v = \sinh(u+v) \div \sinh u \sinh v.$
40. $\coth u - \coth v = -\sinh(u-v) \div \sinh u \sinh v.$
41. $\sinh(u \pm v) = \sinh u \cosh v \pm \cosh u \sinh v.$
42. $\cosh(u \pm v) = \cosh u \cosh v \pm \sinh u \sinh v.$
43. $\tanh(u \pm v) = (\tanh u \pm \tanh v) \div (1 \pm \tanh u \tanh v).$
44. $\coth(u \pm v) = (\coth u \coth v \pm 1) \div (\coth v \pm \coth u).$
45. $\sinh(u+v) + \sinh(u-v) = 2 \sinh u \cosh v.$
46. $\sinh(u+v) - \sinh(u-v) = 2 \cosh u \sinh v.$
47. $\cosh(u+v) + \cosh(u-v) = 2 \cosh u \cosh v.$
48. $\cosh(u+v) - \cosh(u-v) = 2 \sinh u \sinh v.$
49. $\tanh \frac{1}{2}(u+v) = (\sinh u + \sinh v) \div (\cosh u + \cosh v).$
50. $\tanh \frac{1}{2}(u-v) = (\sinh u - \sinh v) \div (\cosh u + \cosh v).$
51. $\coth \frac{1}{2}(u+v) = (\sinh u - \sinh v) \div (\cosh u - \cosh v).$
52. $\coth \frac{1}{2}(u-v) = (\sinh u + \sinh v) \div (\cosh u - \cosh v).$
53. $\frac{\tanh u + \tanh v}{\tanh u - \tanh v} = \frac{\sinh(u+v)}{\sinh(u-v)}.$
54. $\frac{\coth u + \coth v}{\coth u - \coth v} = -\frac{\sinh(u+v)}{\sinh(u-v)}.$
55. $\sinh(u+v) + \cosh(u+v) = (\cosh u + \sinh u)(\cosh v + \sinh v)$
56. $\sinh(u+v) \sinh(u-v) = \sinh^2 u - \sinh^2 v,$
 $= \cosh^2 u - \cosh^2 v.$
57. $\cosh(u+v) \cosh(u-v) = \cosh^2 u + \sinh^2 v,$
 $= \sinh^2 u + \cosh^2 v.$
58. $\sinh(mi\pi) = 0.$ (m is an integer).
59. $\cosh(mi\pi) = (-1)^m.$
60. $\tanh(mi\pi) = 0.$
61. $\sinh(u + mi\pi) = (-1)^m \sinh u.$
62. $\cosh(u + mi\pi) = (-1)^m \cosh u.$
63. $\sinh(2m+1)\frac{1}{2}i\pi = \pm i.$

$$64. \cosh (2m + 1) \frac{1}{2} i \pi = 0.$$

$$65. \sinh \left(\frac{i \pi}{2} \pm u \right) = i \cosh u.$$

$$66. \cosh \left(\frac{i \pi}{2} \pm u \right) = \pm i \sinh u.$$

$$67. \tanh (u + i \pi) = \tanh u.$$

C.—INVERSE HYPERBOLIC FUNCTIONS.

$$68. \sinh^{-1} u = \log (u + \sqrt{u^2 + 1}) = \cosh^{-1} \sqrt{u^2 + 1} = \int \frac{du}{(u^2 + 1)^{\frac{1}{2}}}.$$

$$69. \cosh^{-1} u = \log (u + \sqrt{u^2 - 1}) = \sinh^{-1} \sqrt{u^2 - 1} = \int \frac{du}{(u^2 - 1)^{\frac{1}{2}}}.$$

$$70. \tanh^{-1} u = \frac{1}{2} \log (1 + u) - \frac{1}{2} \log (1 - u) = \int \frac{du}{1 - u^2}.$$

$$71. \coth^{-1} u = \frac{1}{2} \log (1 + u) - \frac{1}{2} \log (u - 1) = \int \frac{du}{1 - u^2} = \tanh^{-1} \frac{1}{u}.$$

$$72. \operatorname{sech}^{-1} u = \log \left(\frac{1}{u} + \sqrt{\frac{1}{u^2} - 1} \right) = - \int \frac{du}{u(1 - u^2)^{\frac{1}{2}}} = \cosh^{-1} \frac{1}{u}.$$

$$73. \operatorname{csch}^{-1} u = \log \left(\frac{1}{u} + \sqrt{\frac{1}{u^2} + 1} \right) = - \int \frac{du}{u(u^2 + 1)^{\frac{1}{2}}} = \sinh^{-1} \frac{1}{u}.$$

$$74. \sin^{-1} u = -i \sinh^{-1} iu = -i \log (iu + \sqrt{1 - u^2}).$$

$$75. \cos^{-1} u = -i \cosh^{-1} u = -i \log (u + i \sqrt{1 - u^2}).$$

$$76. \tan^{-1} u = -i \tanh^{-1} iu = \frac{1}{2i} \log (1 + iu) - \frac{1}{2i} \log (1 - iu).$$

$$77. \cot^{-1} u = i \coth^{-1} iu = \frac{1}{2i} \log (iu - 1) - \frac{1}{2i} \log (iu + 1).$$

$$78. \sin^{-1} iu = i \sinh^{-1} u = i \log (u + \sqrt{1 + u^2}).$$

$$79. \cos^{-1} iu = -i \cosh^{-1} iu = \frac{i}{2} - i \log (u + \sqrt{1 + u^2}).$$

$$80. \tan^{-1} iu = i \tanh^{-1} u = \frac{i}{2} \log (1 + u) - \frac{i}{2} \log (1 - u).$$

$$81. \cot^{-1} iu = -i \coth^{-1} u = -\frac{i}{2} \log (u + 1) + \frac{i}{2} \log (u - 1).$$

$$82. \cosh^{-1} \frac{1}{2} \left(u + \frac{1}{u} \right) = \sinh^{-1} \frac{1}{2} \left(u - \frac{1}{u} \right) = \tanh^{-1} \frac{u^2 - 1}{u^2 + 1},$$

$$= 2 \tanh^{-1} \frac{u - 1}{u + 1} = \log u.$$

$$83. \tanh^{-1} \tan u = \frac{1}{2} g d \, 2u.$$

$$84. \tan^{-1} \tanh u = \frac{1}{2} g d^{-1} \, 2u.$$

$$85. \cosh^{-1} \csc 2u = -\sinh^{-1} \cot 2u = -\tanh^{-1} \cos 2u = \log \tan u.$$

$$86. \tanh^{-1} \tan^2 \left(\frac{1}{4} \pi + \frac{1}{2} u \right) = \frac{1}{2} \log \csc u.$$

$$87. \tanh^{-1} \tan^2 \frac{1}{2} u = \frac{1}{2} \log \sec u.$$

$$88. \cosh^{-1} u \pm \cosh^{-1} v = \cosh^{-1} [uv \pm \sqrt{(u^2 - 1)(v^2 - 1)}].$$

$$89. \sinh^{-1} u \pm \sinh^{-1} v = \sinh^{-1} [u \sqrt{1 + v^2} \pm v \sqrt{1 + u^2}].$$

D.—SERIES.

$$90. e^u = 1 + u + \frac{u^2}{2!} + \frac{u^3}{3!} + \frac{u^4}{4!} + \dots \quad (u^2 < \infty.)$$

$$91. \log u = (u - 1) - \frac{1}{2} (u - 1)^2 + \frac{1}{3} (u - 1)^3 - \dots \quad (2 > u > 0.)$$

$$92. \log u = \frac{u - 1}{u} + \frac{1}{2} \left(\frac{u - 1}{u} \right)^2 + \frac{1}{3} \left(\frac{u - 1}{u} \right)^3 + \dots \quad (u > \frac{1}{2}.)$$

$$93. \log u = 2 \left[\frac{u - 1}{u + 1} + \frac{1}{3} \left(\frac{u - 1}{u + 1} \right)^3 + \frac{1}{5} \left(\frac{u - 1}{u + 1} \right)^5 + \dots \right] \quad (u > 0.)$$

$$94. \log (1 + u) = u - \frac{1}{2} u^2 + \frac{1}{3} u^3 - \frac{1}{4} u^4 + \dots \quad (u^2 < 1.)$$

$$95. \log \left(\frac{1 + u}{1 - u} \right) = 2 \left[u + \frac{1}{3} u^3 + \frac{1}{5} u^5 + \frac{1}{7} u^7 + \dots \right] \quad (u^2 < 1.)$$

$$96. \log \left(\frac{u + 1}{u - 1} \right) = 2 \left[\frac{1}{u} + \frac{1}{3} \left(\frac{1}{u} \right)^3 + \frac{1}{5} \left(\frac{1}{u} \right)^5 + \dots \right] \quad (u^2 > 1.)$$

$$97. \sinh u = u + \frac{u^3}{3!} + \frac{u^5}{5!} + \frac{u^7}{7!} + \dots \quad (u^2 < \infty.)$$

$$= u \left(1 + \frac{u^2}{\pi^2} \right) \left(1 + \frac{u^2}{2^2 \pi^2} \right) \left(1 + \frac{u^2}{3^2 \pi^2} \right) \dots \quad (u^2 < \infty.)$$

$$98. \cosh u = 1 + \frac{u^2}{2!} + \frac{u^4}{4!} + \frac{u^6}{6!} + \dots \quad (u^2 < \infty.)$$

$$= \left(1 + \frac{4u^2}{\pi^2} \right) \left(1 + \frac{4u^2}{3^2 \pi^2} \right) \left(1 + \frac{4u^2}{5^2 \pi^2} \right) \dots \quad (u^2 < \infty.)$$

$$99. \tanh u = u - \frac{1}{3} u^3 + \frac{2}{15} u^5 - \frac{17}{315} u^7 + \dots \quad (u^2 < \frac{1}{4} \pi^2.)$$

$$100. u \coth u = 1 + \frac{1}{3} u^2 - \frac{1}{45} u^4 + \frac{2}{945} u^6 - \dots \quad (u^2 < \pi^2.)$$

$$101. \operatorname{sech} u = 1 - \frac{1}{2} u^2 + \frac{5}{24} u^4 - \frac{61}{720} u^6 + \dots \quad (u^2 < \frac{1}{4} \pi^2.)$$

$$102. u \operatorname{csch} u = 1 - \frac{1}{6} u^2 + \frac{7}{360} u^4 - \frac{31}{15120} u^6 + \dots \quad (u^2 < \pi^2.)$$

$$103. gd u = \phi = u - \frac{1}{6} u^3 + \frac{1}{24} u^5 - \frac{61}{5040} u^7 + \dots \quad (u \text{ small.})$$

$$= \frac{\pi}{2} - \operatorname{sech} u - \frac{1}{2} \frac{\operatorname{sech}^3 u}{3} - \frac{1}{2} \frac{3}{4} \frac{\operatorname{sech}^5 u}{5} - \dots \quad (u \text{ large.})$$

$$104. u = g d^{-1} \phi = \phi + \frac{1}{6} \phi^3 + \frac{1}{24} \phi^5 + \frac{61}{5040} \phi^7 + \dots \quad \left(\phi < \frac{\pi}{2} \right)$$

$$105. \sinh^{-1} u = u = \frac{1}{2} \frac{u^3}{3} + \frac{1}{2} \frac{3}{4} \frac{u^5}{5} - \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{u^7}{7} + \dots \quad (u^2 < 1.)$$

$$= \log 2u + \frac{1}{2} \frac{1}{2u^2} - \frac{1}{2} \frac{3}{4} \frac{1}{4u^4} + \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{1}{6u^6} - \dots \quad (u^2 > 1.)$$

$$106. \cosh^{-1} u = \log 2u - \frac{1}{2} \frac{1}{2u^2} - \frac{1}{2} \frac{3}{4} \frac{1}{4u^4} - \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{1}{6u^6} - \dots \quad (u^2 > 1.)$$

$$107. \tanh^{-1} u = u + \frac{1}{3} u^3 + \frac{1}{5} u^5 + \frac{1}{7} u^7 + \dots \quad (u^2 < 1.)$$

$$108. \coth^{-1} u = \tanh^{-1} \frac{1}{u} = \frac{1}{u} + \frac{1}{3} \frac{1}{u^3} + \frac{1}{5} \frac{1}{u^5} + \frac{1}{7} \frac{1}{u^7} + \dots \quad (u^2 > 1.)$$

$$109. \operatorname{sech}^{-1} u = \cosh^{-1} \frac{1}{u} = \log \frac{2}{u} - \frac{1}{2} \frac{u^2}{2} - \frac{1}{2} \frac{3}{4} \frac{u^4}{4} - \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{u^6}{6} - \dots \quad (u^2 < 1.)$$

$$110. \operatorname{csch}^{-1} u = \sinh^{-1} \frac{1}{u} = \frac{1}{u} - \frac{1}{2} \frac{1}{3u^3} + \frac{1}{2} \frac{3}{4} \frac{1}{5u^5} - \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{1}{7u^7} + \dots \quad (u^2 > 1.)$$

$$= \log \frac{2}{u} + \frac{1}{2} \frac{u^2}{2} - \frac{1}{2} \frac{3}{4} \frac{u^4}{4} + \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{u^6}{6} - \dots \quad (u^2 < 1.)$$

E.—DERIVATIVES.

$$111. \frac{d e^u}{du} = e^u.$$

$$112. d \frac{\log_e u}{du} = \frac{1}{u}.$$

$$113. \frac{d a^u}{du} = a^u \cdot \frac{dv}{du} \cdot \log_e a.$$

$$114. \frac{d u^u}{du} = u^u (1 + \log_e u).$$

$$115. \frac{d \sinh u}{du} = \cosh u.$$

$$116. \frac{d \cosh u}{du} = \sinh u.$$

$$117. \frac{d \tanh u}{du} = \operatorname{sech}^2 u.$$

$$118. \frac{d \coth u}{du} = -\operatorname{csch}^2 u.$$

$$119. \frac{d \operatorname{sech} u}{du} = -\operatorname{sech} u \cdot \tanh u.$$

$$120. \frac{d \operatorname{csch} u}{du} = -\operatorname{csch} u \cdot \coth u.$$

$$121. \frac{d \sinh^{-1} u}{du} = \frac{1}{1 + u^2}.$$

$$122. \frac{d \cosh^{-1} u}{du} = \frac{1}{\sqrt{u^2 - 1}}.$$

$$123. \frac{d \tanh^{-1} u}{du} = \frac{1}{1 - u^2}.$$

$$124. \frac{d \coth^{-1} u}{du} = \frac{1}{1 - u^2}.$$

$$125. \frac{d \operatorname{sech}^{-1} u}{du} = \frac{-1}{u \sqrt{1 - u^2}}.$$

$$126. \frac{d \operatorname{csch}^{-1} u}{du} = \frac{-1}{u \sqrt{u^2 + 1}}.$$

$$127. \frac{d \operatorname{gd} u}{du} = \operatorname{sech} u.$$

$$128. \frac{d \operatorname{gd}^{-1} u}{du} = \sec u.$$

F.—INTEGRALS. (INTEGRATION CONSTANTS ARE OMITTED.)

$$129. \int \sinh u \, du = \cosh u.$$

$$130. \int \cosh u \, du = \sinh u.$$

$$131. \int \tanh u \, du = \log \cosh u.$$

$$132. \int \coth u \, du = \log \sinh u.$$

$$133. \int \operatorname{sech} u \, du = 2 \tan^{-1} e^u = \operatorname{gd} u.$$

$$134. \int \operatorname{csch} u \, du = \log \tanh \frac{u}{2}.$$

$$135. \int \sinh^n u \, du = \frac{1}{n} \sinh^{n-1} u \cdot \cosh u - \frac{n-1}{n} \int \sinh^{n-2} u \, du, \\ = \frac{1}{n+1} \sinh^{n+1} u \cosh u - \frac{n+2}{n+1} \int \sinh^{n+2} u \, du.$$

$$136. \int \cosh^n u \, du = \frac{1}{n} \sinh u \cdot \cosh^{n-1} u + \frac{n-1}{n} \int \cosh^{n-2} u \, du, \\ = -\frac{1}{n+1} \sinh u \cosh^{n+1} u + \frac{n+2}{n+1} \int \cosh^{n+2} u \, du.$$

$$137. \int u \sinh u \, du = u \cosh u - \sinh u.$$

$$138. \int u \cosh u \, du = u \sinh u - \cosh u.$$

$$139. \int u^2 \sinh u \, du = (u^2 + 2) \cosh u - 2u \sinh u.$$

$$140. \int u^n \sinh u \, du = u^n \cosh u - nu^{n-1} \sinh u \\ + n(n-1) \int u^{n-2} \sinh u \, du.$$

$$141. \int \sinh^2 u \, du = \frac{1}{2} (\sinh u \cosh u - u).$$

$$142. \int \sinh u \cdot \cosh u \, du = \frac{1}{4} \cosh (2u).$$

$$143. \int \cosh^2 u \, du = \frac{1}{2} (\sinh u \cosh u + u).$$

$$144. \int \tanh^2 u \, du = u - \tanh u.$$

$$145. \int \coth^2 u \, du = u - \coth u.$$

$$146. \int \operatorname{sech}^2 u \, du = \tanh u.$$

$$147. \int \operatorname{sech}^3 u \, du = \frac{1}{2} \operatorname{sech} u \tanh u + \frac{1}{2} \operatorname{gd} u.$$

$$148. \int \operatorname{csch}^2 u \, du = -\coth u.$$

$$149. \int \sinh^{-1} u \, du = u \sinh^{-1} u - (1 + u^2)^{1/2}.$$

$$150. \int \cosh^{-1} u \, du = u \cosh^{-1} u - (u^2 - 1)^{1/2}.$$

$$151. \int \tanh^{-1} u \, du = u \tanh^{-1} u + \frac{1}{2} \log (1 - u^2).$$

$$152. \int u \sinh^{-1} u \, du = \frac{1}{4} \left[(2u^2 + 1) \sinh^{-1} u - u(1 + u^2)^{1/2} \right].$$

$$153. \int u \cosh^{-1} u \, du = \frac{1}{4} \left[(2u^2 - 1) \cosh^{-1} u - u(u^2 - 1)^{1/2} \right].$$

$$154. \int (\cosh a + \cosh u)^{-1} \, du = 2 \operatorname{csch} a \cdot \tanh^{-1} (\tanh \frac{1}{2} u \cdot \tanh \frac{1}{2} a), \\ = \operatorname{csch} a \left[\log \cosh \frac{1}{2} (u + a) - \log \cosh \frac{1}{2} (u - a) \right].$$

$$155. \int (\cos a + \cosh u)^{-1} \, du = 2 \csc a \cdot \tan^{-1} (\tanh \frac{1}{2} u \cdot \tan \frac{1}{2} a).$$

$$156. \int (1 + \cos a \cdot \cosh u)^{-1} \, du = 2 \csc a \cdot \tanh^{-1} (\tanh \frac{1}{2} u \cdot \tan \frac{1}{2} a).$$

$$157. \int \sinh u \cos u \, du = \frac{1}{2} (\cosh u \cdot \cos u + \sinh u \cdot \sin u).$$

$$158. \int \cosh u \cdot \cos u \, du = \frac{1}{2} (\sinh u \cdot \cos u + \cosh u \cdot \sin u).$$

$$159. \int \sinh u \cdot \sin u \, du = \frac{1}{2} (\cosh u \cdot \sin u - \sinh u \cdot \cos u).$$

$$160. \int \cosh u \cdot \sin u \, du = \frac{1}{2} (\sinh u \cdot \sin u - \cosh u \cdot \cos u).$$

$$161. \int \sinh(mu) \sinh(nu) \, du \\ = \frac{1}{m^2 - n^2} \left[m \sinh(nu) \cosh(mu) - n \cosh(nu) \sinh(mu) \right].$$

$$162. \int \cosh (mu) \sinh (nu) du$$

$$= \frac{1}{m^2 - n^2} \left[m \sinh (nu) \sinh (mu) - n \cosh (nu) \cosh (mu) \right].$$

$$163. \int \cosh (mu) \cosh (nu) du$$

$$= \frac{1}{m^2 - n^2} \left[m \sinh (mu) \cosh (nu) - n \sinh (nu) \cosh (mu) \right].$$

$$164. \int \sinh u \tanh u du = \sinh u - gd u.$$

$$165. \int \cosh u \coth u du = \cosh u + \log \tanh \frac{u}{2}.$$

$$166. \int \sec u du = gd^{-1} u.$$

$$167. \int \sec^3 \phi d\phi = \int (1 + \tan^2 \phi)^{\frac{1}{2}} d \tan \phi = \frac{1}{2} \sec \phi \tan \phi + \frac{1}{2} gd^{-1} \phi, \\ = \frac{1}{2} \tan \phi (1 + \tan^2 \phi)^{\frac{1}{2}} + \frac{1}{2} \sinh^{-1} (\tan \phi). \text{ Here } \phi = gd u.$$

$$168. \int \frac{du}{(u^2 + a^2)^{\frac{1}{2}}} = \sinh^{-1} \frac{u}{a}, \quad \int \frac{du}{(a^2 - u^2)^{\frac{1}{2}}} = \sin^{-1} \frac{u}{a}.$$

$$169. \int \frac{du}{(u^2 - a^2)^{\frac{1}{2}}} = \cosh^{-1} \frac{u}{a}, \quad \int \frac{-du}{(a^2 - u^2)^{\frac{1}{2}}} = \cos^{-1} \frac{u}{a}.$$

$$170. \int \frac{du}{(a^2 - u^2)_{u < a}} = \frac{1}{a} \tanh^{-1} \frac{u}{a}, \quad \int \frac{du}{a^2 + u^2} = \frac{1}{a} \tan^{-1} \frac{u}{a}.$$

$$171. \int \frac{-du}{(u^2 - a^2)_{u > a}} = \frac{1}{a} \coth^{-1} \frac{u}{a}, \quad \int \frac{-du}{a^2 + u^2} = \frac{1}{a} \cot^{-1} \frac{u}{a}.$$

$$172. \int \frac{-du}{u(a^2 - u^2)^{\frac{1}{2}}} = \frac{1}{a} \operatorname{sech}^{-1} \frac{u}{a}, \quad \int \frac{du}{u(u^2 - a^2)^{\frac{1}{2}}} = \frac{1}{a} \operatorname{sec}^{-1} \frac{u}{a}.$$

$$173. \int \frac{-du}{u(a^2 + u^2)^{\frac{1}{2}}} = \frac{1}{a} \operatorname{csch}^{-1} \frac{u}{a}, \quad \int \frac{-du}{u(u^2 - a^2)} = \frac{1}{a} \operatorname{csc}^{-1} \frac{u}{a}.$$

$$174. \int \frac{du}{(au^2 + 2bu + c)^{\frac{1}{2}}} = \sqrt{\frac{1}{a}} \sinh^{-1} \frac{au + b}{(ac - b^2)^{\frac{1}{2}}}, \quad a \text{ positive, } ac > b^2; \\ = \sqrt{\frac{1}{a}} \cosh^{-1} \frac{au + b}{(b^2 - ac)^{\frac{1}{2}}}, \quad a \text{ positive, } ac < b^2; \\ = \frac{1}{\sqrt{-a}} \cos^{-1} \frac{au + b}{(b^2 - ac)^{\frac{1}{2}}}, \quad a \text{ negative.}$$

$$175. \int \frac{du}{(au^2 + 2bu + c)} = \frac{1}{(ac - b^2)^{\frac{1}{2}}} \tan^{-1} \frac{au + b}{(ac - b^2)^{\frac{1}{2}}}, \quad ac > b^2; \\ = \frac{-1}{(b^2 - ac)^{\frac{1}{2}}} \tanh^{-1} \frac{au + b}{(b^2 - ac)^{\frac{1}{2}}}, \quad ac < b^2, \\ au + b < (b^2 - ac)^{\frac{1}{2}}. \\ (b^2 - ac)^{\frac{1}{2}} \coth^{-1} \frac{au + b}{(b^2 - ac)^{\frac{1}{2}}}, \quad ac < b^2, \\ au + b > (b^2 - ac)^{\frac{1}{2}}.$$

$$176. \int \frac{du}{(a-u)(u-b)^{\frac{1}{2}}} = \frac{2}{(a-b)^{\frac{1}{2}}} \tanh^{-1} \sqrt{\frac{u-b}{a-b}},$$

$$\text{or } \frac{2}{(b-a)^{\frac{1}{2}}} \tanh^{-1} \sqrt{\frac{u-b}{b-a}},$$

$$\text{or } \frac{2}{(a-b)^{\frac{1}{2}}} \coth^{-1} \sqrt{\frac{u-b}{a-b}}. \quad (\text{The real form is to be taken.})$$

$$177. \int \frac{du}{(a-u)(b-u)^{\frac{1}{2}}} = \frac{2}{(b-a)^{\frac{1}{2}}} \tanh^{-1} \sqrt{\frac{b-u}{b-a}},$$

$$\text{or } \frac{2}{(b-a)^{\frac{1}{2}}} \coth^{-1} \sqrt{\frac{b-u}{b-a}},$$

$$\text{or } \frac{-2}{(a-b)^{\frac{1}{2}}} \tanh^{-1} \sqrt{\frac{b-u}{a-b}}. \quad (\text{The real form is to be taken.})$$

$$178. \int (u^2 - a^2)^{\frac{1}{2}} du = \frac{1}{2} u (u^2 - a^2)^{\frac{1}{2}} - \frac{1}{2} a^2 \cosh^{-1} \frac{u}{a}.$$

$$179. \int (a^2 - u^2)^{\frac{1}{2}} du = \frac{1}{2} u (a^2 - u^2)^{\frac{1}{2}} + \frac{1}{2} a^2 \sin^{-1} \frac{u}{a}.$$

$$180. \int (u^2 + a^2)^{\frac{1}{2}} du = \frac{1}{2} u (u^2 + a^2)^{\frac{1}{2}} + \frac{1}{2} a^2 \sinh^{-1} \frac{u}{a}.$$

$$181. \int e^{au} du = \frac{e^{au}}{a}.$$

$$182. \int u e^{au} du = \frac{e^{au}}{a^2} (au - 1).$$

$$183. \int u^m e^{au} du = \frac{u^m e^{au}}{a} - \frac{m}{a} \int u^{m-1} e^{au} du.$$

$$184. \int \frac{e^{au} du}{u^m} = \frac{1}{m-1} \left[-\frac{e^{au}}{u^{m-1}} + a \int \frac{e^{au} du}{u^{m-1}} \right].$$

$$185. \int a^{bu} du = \frac{a^{bu}}{b \log a}.$$

$$186. \int u^n a^u du = \frac{a^u u}{\log a} - \frac{na^u u^{n-1}}{(\log a)^2} + \frac{n(n-1)a^u u^{n-2}}{(\log a)^3} - \dots - \frac{n(n-1)(n-2) \dots 2.1 a^u}{(\log a)^{n+1}}.$$

$$187. \int \frac{a^u du}{u^n} = \frac{a^u}{n-1} \left[-\frac{1}{u^{n-1}} - \frac{\log a}{(n-2)u^{n-2}} - \frac{(\log a)^2}{(n-2)(n-3)u^{n-3}} - \dots + \frac{(\log a)^{n-1}}{(n-2)(n-3) \dots 2.1} \int \frac{a^u du}{u} \right].$$

$$188. \int \frac{a^u du}{u} = \log u + u \log a + \frac{(u \log a)^2}{2 \cdot 2!} + \frac{(u \log a)^3}{3 \cdot 3!} + \dots$$

$$189. \int \frac{du}{1+e^u} = \log \frac{e^u}{1+e^u}.$$

$$190. \int \frac{du}{a+be^{mu}} = \frac{1}{am} \left[mu - \log(a+be^{mu}) \right].$$

$$191. \int \frac{du}{ae^{mu}+be^{-mu}} = \frac{1}{m(ab)^{\frac{1}{2}}} \tan^{-1} \left(e^{mu} \sqrt{\frac{a}{b}} \right).$$

$$192. \int \frac{du}{(a+be^{mu})^{\frac{1}{2}}} = \frac{1}{m\sqrt{a}} \left[\log(\sqrt{a+be^{mu}} - \sqrt{a}) \right. \\ \left. - \log(\sqrt{a+be^{mu}} + \sqrt{a}) \right].$$

$$193. \int \frac{ue^u du}{(1+u)^2} = \frac{e^u}{1+u}.$$

$$194. \int e^{au} \log u du = \frac{e^{au} \log u}{a} - \frac{1}{a} \int \frac{e^{au} du}{u}.$$

$$195. \int \log u du = u \log u - u.$$

$$196. \int u^m \log u du = u^{m+1} \left[\frac{\log u}{m+1} - \frac{1}{(m+1)^2} \right].$$

$$197. \int (\log u)^n du = u (\log u)^n - n \int (\log u)^{n-1} du.$$

$$198. \int u^m (\log u)^n du = \frac{u^{m+1} (\log u)^n}{m+1} - \frac{n}{m+1} \int u^m (\log u)^{n-1} du.$$

$$199. \int \frac{(\log u)^n du}{u} = \frac{(\log u)^{n+1}}{n+1}.$$

$$200. \int \frac{du}{\log u} = \log(\log u) + \log u + \frac{(\log u)^2}{2 \cdot 2!} + \frac{(\log u)^3}{3 \cdot 3!} + \dots$$

$$201. \int \frac{du}{(\log u)^n} = -\frac{u}{(n-1)(\log u)^{n-1}} + \frac{1}{n-1} \int \frac{du}{(\log u)^{n-1}}.$$

$$202. \int \frac{u^m du}{(\log u)^n} = -\frac{u^{m+1}}{(n-1)(\log u)^{n-1}} + \frac{m+1}{n-1} \int \frac{u^m du}{(\log u)^{n-1}}.$$

$$203. \int \frac{u^m du}{\log u} = \int \frac{e^{-y}}{y} dy, \text{ where } y = -(m+1) \log u.$$

$$204. \int \frac{du}{u \log u} = \log(\log u).$$

$$205. \int \frac{du}{u (\log u)^n} = -\frac{1}{(n-1)(\log u)^{n-1}}.$$

$$206. \int (a+bu)^m \log u du = \\ \frac{1}{b(m+1)} \left[(a+bu)^{m+1} \log u - \int \frac{(a+bu)^{m+1} du}{u} \right].$$

$$207. \int u^m \log (a + bu) du =$$

$$\frac{1}{m+1} \left[u^{m+1} \log (a + bu) - b \int \frac{u^{m+1} du}{a + bu} \right].$$

$$208. \int \frac{\log (a + bu) du}{u} =$$

$$\begin{aligned} & \log a \cdot \log u + \frac{bu}{a} - \frac{1}{2^2} \left(\frac{bu}{a} \right)^2 + \frac{1}{3^2} \left(\frac{bu}{a} \right)^3 - \dots, \\ & = \frac{1}{2} (\log bu)^2 - \frac{a}{bu} + \frac{1}{2^2} \left(\frac{a}{bu} \right)^2 - \frac{1}{3^2} \left(\frac{a}{bu} \right)^3 + \dots \end{aligned}$$

$$209. \int \frac{\log u du}{(a + bu)^m} = \frac{1}{b(m-1)} \left[-\frac{\log u}{(a + bu)^{m-1}} + \int \frac{du}{u(a + bu)^{m-1}} \right].$$

$$210. \int \frac{\log u du}{a + bu} = \frac{1}{b} \log u \cdot \log (a + bu) - \frac{1}{b} \int \frac{\log (a + bu)}{u} du.$$

$$211. \int (a + bu) \log u du = \frac{(a + bu)^2}{2b} \log u - \frac{a^2 \log u}{2b} - au - \frac{1}{4} bu^2.$$

$$212. \int \frac{\log u du}{(a + bu)^{1/2}} =$$

$$\begin{aligned} & \frac{2}{b} \left[(\log u - 2) \sqrt{a + bu} + \sqrt{a} \log (\sqrt{a + bu} + \sqrt{a}) \right. \\ & \quad \left. - \sqrt{a} \log (\sqrt{a + bu} - \sqrt{a}) \right], \text{ if } a > 0, \end{aligned}$$

$$= \frac{2}{b} \left[(\log u - 2) \sqrt{a + bu} + 2 \sqrt{-a} \tan^{-1} \sqrt{\frac{a + bu}{-a}} \right], \text{ if } a < 0.$$

$$213. \int_0^\infty e^{-a^2 u^2} du = \frac{\sqrt{\pi}}{2a} = \frac{1}{2a} \Gamma \left(\frac{1}{2} \right).$$

$$214. \int_0^\infty u^n e^{-au} du = \Gamma \frac{(n+1)}{a^{n+1}} = \frac{n!}{a^{n+1}}.$$

$$215. \int_0^\infty u^{2n} e^{-au^2} du = \frac{1 \cdot 3 \cdot 5 \dots (2n-1)}{2^{n+1} a^n} \sqrt{\frac{\pi}{a}}.$$

$$216. \int_0^\infty e^{-u^2 - \frac{a^2}{u^2}} du = \frac{e^{-2a}}{2} \sqrt{\pi}. \quad a > 0.$$

$$217. \int_0^\infty e^{-nu} \sqrt{u} du = \frac{1}{2n} \sqrt{\frac{\pi}{n}}.$$

$$218. \int_0^\infty \frac{e^{-nu}}{\sqrt{u}} du = \sqrt{\frac{\pi}{n}}. \quad a > 0.$$

$$219. \int_0^\infty \frac{du}{\sinh (nu)} = \frac{\pi}{2n}.$$

$$220. \int_0^\infty \frac{u du}{\sinh (nu)} = \frac{\pi^2}{4n^2}.$$

$$221. \int_0^{i\pi} \sinh(mu) \cdot \sinh(nu) du = \int_0^{i\pi} \cosh(mu) \cdot \cosh(nu) du \\ = 0, \text{ if } m \text{ is different from } n.$$

$$222. \int_0^{i\pi} \cosh^2(mu) du = - \int_0^{i\pi} \sinh^2(mu) du = \frac{i\pi}{2}.$$

$$223. \int_{-i\pi}^{+i\pi} \sinh(mu) du = 0.$$

$$224. \int_0^{i\pi} \cosh(mu) du = 0.$$

$$225. \int_{-i\pi}^{i\pi} \sinh(mu) \cosh(nu) du = 0.$$

$$226. \int_0^{i\pi} \sinh(mu) \cosh(mu) du = 0.$$

$$227. \int_0^1 \frac{\log u}{1-u} du = -\frac{\pi^2}{6}.$$

$$228. \int_0^1 \frac{\log u}{1+u} du = -\frac{\pi^2}{12}.$$

$$229. \int_0^1 \frac{\log u}{1-u^2} du = -\frac{\pi^2}{8}.$$

$$230. \int_0^1 \log \left(\frac{1+u}{1-u} \right) \cdot \frac{du}{u} = \frac{\pi^2}{4}.$$

$$231. \int_0^1 \frac{\log u du}{(1-u^2)^{\frac{1}{2}}} = -\frac{\pi}{2} \log 2.$$

$$232. \int_0^1 \frac{(u^p - u^q) du}{\log u} = \log \frac{p+1}{q+1}, \text{ if } p+1 > 0, q+1 > 0.$$

$$233. \int_0^1 (\log u)^n du = (-1)^n \cdot n!.$$

$$234. \int_0^1 \left(\log \frac{1}{u} \right)^{\frac{1}{2}} du = \sqrt{\frac{\pi}{2}}.$$

$$235. \int_0^1 \left(\log \frac{1}{u} \right)^n du = n!.$$

$$236. \int_0^1 \frac{du}{\left(\log \frac{1}{u} \right)^{\frac{1}{2}}} = \sqrt{\pi}.$$

$$237. \int_0^1 u^m \log \left(\frac{1}{u} \right)^n du = \frac{\Gamma(n+1)}{(m+1)^{n+1}}, \text{ if } m+1 > 0, n+1 > 0.$$

$$238. \int_0^\infty \log \left(\frac{e^u + 1}{e^u - 1} \right) du = \frac{\pi^2}{6}.$$

G.—FORMULAS FOR THE SOLUTION OF PSEUDO-SPHERICAL TRIANGLES.

a.—Right Triangles.

$$\sin A = \frac{\cot \Pi(a)}{\cot \Pi(c)} = \frac{\sinh a}{\sinh c}.$$

$$\cos A = \frac{\cos \Pi(b)}{\cos \Pi(c)} = \frac{\tanh b}{\tanh c}.$$

$$\cos A = \frac{\sin B}{\sin \Pi(a)} = \sin B \cosh a.$$

$$\cot A = \frac{\cot \Pi(b)}{\cos \Pi(a)} = \frac{\sinh b}{\tanh a}.$$

$$\cos B = \frac{\cos \Pi(a)}{\cos \Pi(c)} = \frac{\tanh a}{\tanh c}.$$

$$\cos B = \frac{\sin A}{\sin \Pi(b)} = \sin A \cosh b.$$

$$\sin B = \frac{\cot \Pi(b)}{\cot \Pi(c)} = \frac{\sinh b}{\sinh c}.$$

$$\cot B = \frac{\cot \Pi(a)}{\cos \Pi(b)} = \frac{\sinh a}{\tanh b}.$$

$$\begin{aligned} \tan A \tan B &= \sin \Pi(c) = \sin \Pi(a) \sin \Pi(b). \\ &= \operatorname{sech} c = \operatorname{sech} a \operatorname{sech} b. \end{aligned}$$

b.—Oblique Triangles.

The general relations are:

$$\cosh a = \cosh b \cosh c - \sinh b \sinh c \cos A.$$

$$\sin A \sinh b = \sin B \sinh a.$$

$$\coth a \sinh b = \cosh b \cos C + \sin C \cot A.$$

$$\cos A = -\cos B \cos C + \sin B \sin C \cosh a.$$

Forti solves the six typical cases in the following manner:

CASE 1.—Given a, b, c . Put $2p = a + b + c$. Then,

$$\tan \frac{1}{2} A = \sqrt{\frac{\sinh(p-b) \cdot \sinh(p-c)}{\sinh p \sinh(p-a)}}.$$

The conditions are $a < b + c$; $b < a + c$; and $c < a + b$.

CASE 2.—Given a, b, A . Draw the geodetic line CD perpendicular to AB .

Then $a > CD$; $\frac{\sinh b \sin A}{\sinh a} < 1$; $\cot \frac{1}{2} C > 0$; and $\tanh \frac{1}{2} c > 0$.

$$\sin B = \frac{\sinh b \sin A}{\sinh a}$$

$$\cos \frac{1}{2} C = \frac{\tan \frac{1}{2} (A - B) \sinh \frac{1}{2} (a + b)}{\sinh \frac{1}{2} (a - b)}.$$

$$\tanh \frac{1}{2} c = \frac{\tanh \frac{1}{2} (a - b) \sin \frac{1}{2} (A + B)}{\sin \frac{1}{2} (A - B)}.$$

CASE 3.—Given a, b, C . $2\Delta = \pi - (A + B + C)$.

$$\tan \frac{1}{2} (A + B) = \cot \frac{1}{2} C \frac{\cosh \frac{1}{2} (a - b)}{\cosh \frac{1}{2} (a + b)}$$

$$\tan \frac{1}{2} (A - B) = \cot \frac{1}{2} C \frac{\sinh \frac{1}{2} (a - b)}{\sinh \frac{1}{2} (a + b)}$$

$$\tanh \frac{1}{2} c = \sqrt{\frac{\sin \Delta \sin (\Delta + C)}{\sin (\Delta + A) \sin (\Delta + B)}}$$

CASE 4.—Given A, B, c . $A + B < \pi$ and $DBC < DBG$. The angle DBG is the angle between the geodetic DB drawn perpendicular to AC and the geodetic BG drawn parallel to AC .

$$\tanh \frac{1}{2} (a + b) = \tanh \frac{1}{2} c \frac{\cos \frac{1}{2} (A - B)}{\cos \frac{1}{2} (A + B)}.$$

$$\tanh \frac{1}{2} (a - b) = \tanh \frac{1}{2} c \frac{\sin \frac{1}{2} (A - B)}{\sin \frac{1}{2} (A + B)}.$$

$$\tan \frac{1}{2} C = \sqrt{\frac{\sinh (p - a) \sinh (p - b)}{\sinh p \sinh (p - c)}}$$

CASE 5.—Given A, B, a . $a > CD$ and $A + B < \pi$.

Solve the two right triangles formed by the geodetic line CD drawn perpendicular to AB .

CASE 6.—Given A, B, C . $A + B + C < \pi$.

$$\tanh \frac{1}{2} a = \sqrt{\frac{\sin \Delta \sin (\Delta + A)}{\sin (\Delta + B) \sin (\Delta + C)}}$$

H.—FORMULAS FOR THE SOLUTION OF THE CUBIC¹.

If a cubic equation is given in the form

$$z^3 + az^2 + bz + c = 0,$$

it can be reduced by the substitution $z = x - \frac{a}{3}$ to the simpler form

$$x^3 + px + q = 0.$$

¹ Taken from Des Ingenieurs Taschenbuch der Hütte, Berlin, 18th edition.

CASE 1.—When $x^3 + px \pm q = 0$; p and q positive. Compute the auxiliary variable u from $\sinh u = \frac{\frac{1}{2}q}{\frac{1}{8}p(\frac{1}{8}p)^{\frac{1}{2}}}$; then the roots are

$$x_1 = \mp 2 \sqrt{\frac{1}{8}p} \sinh \frac{1}{3}u.$$

$$x_2 = \pm \sqrt{\frac{1}{8}p} \sinh \frac{1}{3}u + i \sqrt{p} \cosh \frac{1}{3}u.$$

$$x_3 = \pm \sqrt{\frac{1}{8}p} \sinh \frac{1}{3}u - i \sqrt{p} \cosh \frac{1}{3}u.$$

CASE 2.—When $x^3 - px \pm q = 0$; p and q positive. $(\frac{1}{8}p)^3 < (\frac{1}{2}q)^2$. Compute u from $\cosh u = \frac{\frac{1}{2}q}{\frac{1}{8}p(\frac{1}{8}p)^{\frac{1}{2}}}$; then the roots are

$$x_1 = \mp 2 \sqrt{\frac{1}{8}p} \cosh \frac{1}{3}u.$$

$$x_2 = \pm \sqrt{\frac{1}{8}p} \cosh \frac{1}{3}u + i \sqrt{p} \sinh \frac{1}{3}u.$$

$$x_3 = \pm \sqrt{\frac{1}{8}p} \cosh \frac{1}{3}u - i \sqrt{p} \sinh \frac{1}{3}u.$$

CASE 3.—When $x^3 - px \pm q = 0$; p and q positive. $(\frac{1}{8}p)^3 > (\frac{1}{2}q)^2$. Compute the angle u from $\cos u = \frac{\frac{1}{2}q}{\frac{1}{8}p(\frac{1}{8}p)^{\frac{1}{2}}}$; then the roots are

$$x_1 = \mp 2 \sqrt{\frac{1}{8}p} \cos \frac{1}{3}u.$$

$$x_2 = \mp 2 \sqrt{\frac{1}{8}p} \cos (\frac{1}{3}u + 120^\circ).$$

$$x_3 = \mp 2 \sqrt{\frac{1}{8}p} \cos (\frac{1}{3}u + 240^\circ).$$

CASE 4.—When $x^3 - px \pm q = 0$; p and q positive. $(\frac{1}{8}p)^3 = (\frac{1}{2}q)^2$.

$$x_1 = \mp 2 \sqrt{\frac{1}{8}p}.$$

$$x_2 = x_3 = \pm \sqrt{\frac{1}{8}p}.$$

For applications of hyperbolic and circular functions to the solution of the cubic whose coefficients are general (*i. e.*, real or complex), see a brief paper by Mr. W. D. Lambert in *American Mathematical Monthly* for April, 1906.

GEOMETRICAL ILLUSTRATIONS OF HYPERBOLIC FUNCTIONS.

The algebraic relationship of the hyperbolic functions to the circular functions has been discussed in the section on definitions and formulas. A close relationship also exists between the elliptic functions and the hyperbolic functions. Thus it may be shown that the elliptic integral of the first kind,

$$u = \int \frac{d\phi}{\sqrt{1 - k^2 \sin^2 \phi}}$$

in which k is the modulus and ϕ the amplitude, reduces to $u = g d^{-1} \phi$ when $k = 1$. The elliptic functions thus degenerate into the hyperbolic functions when the modulus is equal to unity. A case in point is the elastica, the equation of which takes the form of an elliptic integral, excepting when the modulus is unity. It then reduces to the two equations

$$u = 2 \tanh u; \frac{y}{a} = \frac{1}{\cosh u},$$

which is a syntactrix described by the free end of a rod whose middle point traces out the tractory.¹

Ligowski gives the following easy geometrical method of demonstrating the relations between the hyperbolic and circular functions. Let the equation of the circle of unit radius be

$$x_c^2 + y_c^2 = 1,$$

and call u_c the arc of this circle from the positive x axis to the point x_c, y_c .

Then, of course, the circle may be represented by the two equations

$$x_c = \cos u_c; y_c = \sin u_c.$$

Now, the area of the circular sector, whose chord is $2y_c$, is $\frac{2 \cdot u_c \cdot 1}{2} = u_c$, so that x_c and y_c may be regarded as the cosine and sine of a sector u_c . The ellipse may be derived from the unit circle by multiplying the ordinates y_c by b . Hence, in the ellipse, the area of the sector subtended by the chord $2y_c$ is, say, u_e and $u_e = bu_c$.

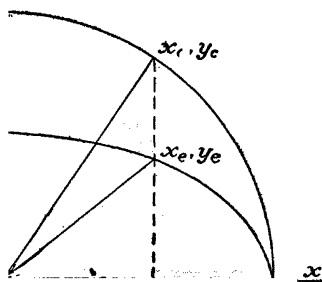


FIG. 4.

¹ If in these equations m is substituted for 2 they represent any syntactrix. The two equations, with this substitution, can be combined to the following:

$$\frac{(au - x)^2}{a^2 m^2} + \frac{y^2}{a^2 m^2} = 1,$$

showing that the curve is traced by a point on a circle of radius am whose center is in motion. It is noteworthy that if in this equation the hyperbolic sector u is replaced by a circular sector ϕ , the new equation represents a prolate or a curtate cycloid, or better the syncycloid. Thus the syntactrix may be considered as a syncycloid with an infinite period.

Thus

$$x_e = \cos u_e = \cos \frac{u_e}{a},$$

$$y_e = \sin u_e = \frac{y_e}{b} = \sin \frac{u_e}{b},$$

so that for the ellipse,

$$x_e^2 + \frac{y_e^2}{a^2} = 1.$$

$$x_e = x_e = \cos \frac{u_e}{b}; \quad y_e = b \sin \frac{u_e}{b}.$$

The equation

$$x^2 - y^2 = 1$$

represents an equilateral hyperbola, and if u is the area of the hyperbolic sector whose chord is $2y$, then there can be no objection to writing

$$x = \cosh u; \quad y = \sinh u,$$

where \cosh and \sinh are functions whose nature is still to be determined. The most evident relation is

$$\cosh^2 u - \sinh^2 u = 1.$$

Now if $i = \sqrt{-1}$, the hyperbola may be written

$$x^2 + \frac{y^2}{i^2} = 1,$$

which is an ellipse whose major axis is unity and whose minor axis is i . Comparing this with the ellipse discussed above, it appears at once that

$$x = \cosh u = \cos \frac{u}{i},$$

$$y = \sinh u = i \sin \frac{u}{i},$$

or, in an equivalent form,

$$\cosh u = \cos iu; \quad \sinh u = -i \sin iu,$$

$$\cosh iu = \cos u; \quad \sinh iu = i \sin u.$$

The investigation of $\cosh u$ and $\sinh u$ can be completed in various ways; for example, by writing out the series for $\cos iu$ and $-i \sin iu$ and showing that their sum or difference is $e^{\pm u}$.

The geometrical properties of the hyperbolic functions themselves are commonly discussed in reference to the equilateral hyperbola. They could also be derived from the geometry of the ellipse without reference to the hyperbola; but a more perspicuous method seems to be to study the relations of these functions to both curves at the same time.¹

In any ellipse,

$$\frac{x^2}{b^2} + \frac{y^2}{a^2} = 1,$$

¹See Bull. Geol. Soc. Am., vol. 2, 1891, p. 49, and Am. Jour. Sci., vol. 46, 1893, p. 337.

the area $a\beta$ may be chosen as the unit area, so that the equation of the curve becomes

$$a^2 x^2 + \frac{y^2}{a^2} = 1.$$

By varying the value of a in this equation a family of ellipses is obtained each of area π , all with the same center and all with axes lying in the axes of coördinates. The envelope of this system of curves is the hyperbola $xy = \frac{1}{2}$, and this may be conceived as generated by the motion of a single point. The coördinates of the point P_1 , at which the hyperbola is tangent to the ellipse, are

$$x_1 = \frac{1}{\sqrt{2}a} \quad y_1 = \frac{a}{\sqrt{2}};$$

and the coördinates of the point c at which the hyperbola is tangent to the unit circle, are

$$x = y = \frac{1}{\sqrt{2}}.$$

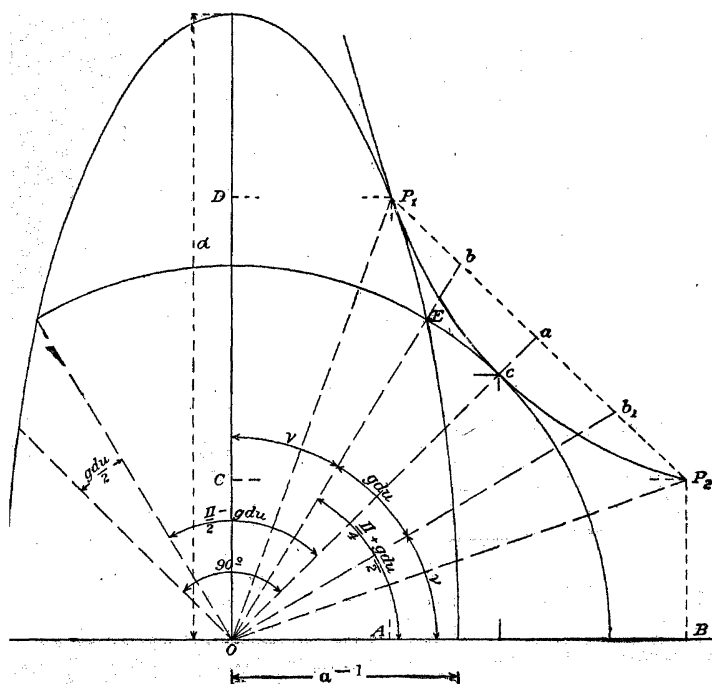


FIG. 5.

If the hyperbola is conceived as generated by the point c in moving from its original position to P_1 (or as a "line of flow"), its radius vector sweeps over an hyperbolic sector ocP_1 . If this area is called $\frac{u}{2}$, then by a well-known formula,

$$du = x dy - y dx,$$

and because $xy = \frac{1}{2}$,

$$du = \frac{1}{2} \left(\frac{dy}{y} - \frac{dx}{x} \right).$$

Since no integration constant is required,

$$u = \frac{1}{2} \log \frac{y_1}{x_1} = \frac{1}{2} \log a^2 \text{ or } a = e^u.$$

The area u is the sector oP_1cP_2 , where the coördinates of P_2 are $x_2 = y_1$ and $y_2 = x_1$. It is noteworthy that two other areas, AP_1cP_2B and CDP_1cP_2 , have this same value, for evidently

$$\int_{x_1}^{x_2} y \, dx = \int_{y_1}^{y_2} x \, dy = \log a = u.$$

The length of the chord P_1P_2 is

$$\sqrt{(x_2 - x_1)^2 + (y_1 - y_2)^2} = a - a^{-1},$$

and half of this, or P_1a , is the hyperbolic sine which may evidently be put in the form

$$\sinh u = \frac{e^u - e^{-u}}{2}.$$

Since the curve P_1cP_2 is an hyperbola,

$$oa^2 - aP_1^2 = 1,$$

and therefore

$$oa = \sqrt{1 - \sinh^2 u} = \frac{e^u + e^{-u}}{2} = \cosh u.$$

The diameters connecting the points of intersection of the unit circle and the ellipse, whose axes are a and a^{-1} , may be called the isocyclic diameters of the ellipse, because the circle and the ellipse have the same area. These diameters are not conjugate. If the ellipse is conceived as the section on the greatest and least axes of an ellipsoid of unit volume, the isocyclic diameters are the traces of the circular sections of the ellipsoid. The coördinates of one of the points of intersection, say E , are

$$x = \frac{1}{\sqrt{a^2 + 1}}; y = \frac{a}{\sqrt{a^2 + 1}},$$

and therefore the angle ν , which the vector oE makes with the major axis of the ellipse, is given by the relation

$$\tan \nu = a^{-1} = e^{-u},$$

and it follows that

$$\tan \left(\frac{\pi}{2} - 2\nu \right) = \frac{1}{2} (\cot \nu - \tan \nu) = \sinh u.$$

This angle $\left(\frac{\pi}{2} - 2\nu \right)$ is $gd \, u$, or the gudermannian of u , so that in any

ellipse whatever the angle made by any line parallel to one isocyclic diameter with a perpendicular on the other isocyclic diameter is the gudermannian of the natural logarithm of the semi-major axis, this being expressed in terms of the isocyclic radius, which in the general case is the square root of the product of the semi-axes.¹ In the diagram the gudermannian bob_1 is shown as bisected by the axis of the hyperbola, and it is worth remarking that if the ellipse were to be distorted into a circle by compressing the major axis and elongating the minor axis, the line ob would be brought into coincidence with ob_1 , so that $gd\ u$ can be defined as the angle through which an isocyclic diameter has swept when the ellipse has been derived from a circle by irrational plane strain.

The angle $45^\circ + \frac{gd\ u}{2}$ which occurs in the formula for meridional parts is the angle made by either isocyclic diameter of the ellipse with the minor axis, and the tangent of this angle is the semi-major axis a .

The twofold relations of the hyperbolic functions to the hyperbola and the ellipse are illustrated in a somewhat different manner in figure 6.

Here the curve $p_1 c p_2$ is an arc of an hyperbola $y^2 - x^2 = 1$. If the area of the sector $o p_1 c p_2$ is called u , $a p_1 = \sinh u$ and $oa = \cosh u$. Make $bc = p_1 a$ and draw the associated ellipse shown in the diagram. Then the angle $boc = gd\ u$; $bo = \cosh u$ and

$$\tan gd\ u = \sinh u$$

$$\sec gd\ u = \cosh u$$

$$\sin gd\ u = \tanh u.$$

The ellipse has corresponding properties. Since the gudermannian is the angle between either isocyclic diameter and a line perpendicular to the other, the line ob may be regarded as coinciding with one isocyclic diameter and the axis of abscissas with the other. The major axis of the ellipse then bisects

¹The isocyclic diameter used in this illustration of hyperbolic functions lies in the circular section of a shear ellipsoid, or an ellipsoid in which the mean axis is a mean proportional between the greatest and least axes. The position of the circular section of the general ellipsoid is also readily expressed in terms of hyperbolic functions. Let the equation of the ellipsoid be

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1; \quad a > b > c.$$

If $\frac{b}{c} = \cosh u_1$, and $\frac{a}{b} = \cosh u_2$,

the angle ν which the circular section makes with the greatest axis is given by

$$\tan \nu = \frac{1}{i} \tanh i\nu = \frac{b^{-2} - a^{-2}}{c^{-2} - b^{-2}} = \frac{\tanh u_1}{\sinh u_2}.$$

If $u_1 = u_2$ and $\frac{a}{b} = a$ this expression reduces to $\tan \nu = a^{-1}$, or to the case of the shear ellipsoid.

the angle $90^\circ - gdu$, its magnitude is $2e''$, and the equation of the ellipse is

$$x^2 + 4xy \tan gdu + y^2 (4 \tan^2 gdu + 1) = 1.$$

By varying the value of $\tan gdu$ (or $\sinh u$) a system of ellipses is obtained whose envelopes are $y = \pm 1$, so that if any one of the ellipses is supposed to be derived from the circle by distortion, the process is that generally known as "shearing motion or scission."

If the points in the circle are sought which correspond to the points on the

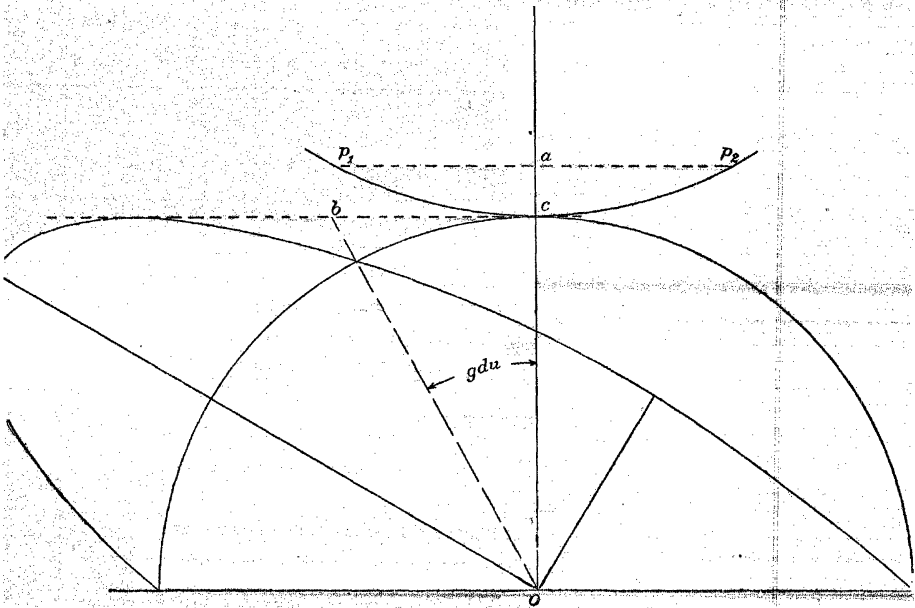


FIG. 6.

major axis of the ellipsoid, it will be found that the angle between the two positions (the angle of rotation) is equal to the gudermannian.¹

If instead of the horizontal, the vertical line in figure 6 had been taken as coinciding with the isocyclic diameter of the ellipse, the result would have been the discovery of a system of ellipses whose envelopes are $x = \pm 1$, similar in all respects excepting orientation to that discussed.

¹ Love's Treatise on the Theory of Elasticity, vol. I, p. 43.

METHODS OF INTERPOLATION.

It is not easy to describe the use of the tables which follow without some notes on the methods of interpolation with reference to which they are arranged. In all of them the argument advances by equal increments, each equal, say, to ω . It is required to find a value of the function F intermediate between two tabulated values, F_0 and F_1 , corresponding to a fractional value of the argument or to $n\omega$, where n is always less than unity, and preferably less than one-half.

Let F_n be the value of the function to be determined; let F_{-1} and F_{-2} be tabulated values of F immediately preceding F_0 , and let F_1, F_2 be values immediately following F_0 . Denote $F_1 - F_0$ by a_1 , other first differences (Δ') being similarly represented. If also $a_2 - a_1 = b_1$, $b_1 - b_0 = c_1$, etc., the whole system of functions and differences is shown in the following schedule:¹

| F | Δ' | Δ'' | Δ''' | Δ^{iv} | Δ^v | Δ^{vi} |
|----------|-----------|------------|-------------|---------------|------------|---------------|
| F_{-2} | | b'' | | d'' | | f'' |
| F_{-1} | a'' | b' | c'' | d' | e'' | f' |
| F_0 | a' | b_0 | c' | d_0 | e' | f_0 |
| F_1 | a_1 | b_1 | c_1 | d_1 | e_1 | f_1 |
| F_2 | a_2 | b_2 | c_2 | d_2 | e_2 | f_2 |

The most familiar formula of interpolation is due to Newton, and in the above notation it may be written thus:

$$F_n - F_0 = na_1 + \frac{n(n-1)}{2!} b_1 + \frac{n(n-1)(n-2)}{3!} c_1 + \frac{n(n-1)(n-2)(n-3)}{4!} d_1 + \dots$$

¹The notation and general outline of treatment here presented closely follow Mr. Herbert L. Rice's treatise, *Theory and Practice of Interpolation*, 1899. The Nichols Press, Lynn, Massachusetts.

The coefficients are those of the binomial theorem. This formula is applicable to the first intervals of a series, which is not the case with any other mode of interpolation. It may also be adapted to the last intervals by substituting $-n$ for n and a', b', c', d', \dots for $a_1, b_1, c_2, d_2, \dots$. In systematic interpolation, such as is involved in the construction of tables, it is usual to employ the more rapidly converging formulas of Stirling or Bessel; but when a computing machine and a table of products are available it is sometimes less laborious to compute an extra term of Newton's formula than to calculate and apply the mean differences called for by the other methods. Both Stirling's and Bessel's formulas can be derived from Newton's by known relations between the several differences.

In Stirling's formula the mean of the first differences next preceding and following F_0 is made use of instead of only the latter, as in Newton's formula. The third differences are similarly treated, so that a_0, c_0 , etc., being new quantities, are defined by

$$\frac{a' + a_1}{2} = a_0; \quad \frac{c' + c_1}{2} = c_0, \text{ etc.}$$

These mean values are used in conjunction with the even differences on the same horizontal line with F_0 in the schedule, and Stirling's formula is

$$F_n - F_0 = na_0 + \frac{n^2}{2!} b_0 + \frac{n(n^2-1)}{3!} c_0 + \frac{n^2(n^2-1)}{4!} d_0 \\ + \frac{n(n^2-1)(n^2-4)}{5!} e_0 + \dots$$

To interpolate backward it is only needful to substitute $-n$ for n .

In Bessel's formula use is made of mean differences of the even orders, and if b, d , etc., are these means they are defined in terms of the scheduled differences, thus:

$$\frac{b_0 + b_1}{2} = b; \quad \frac{d_0 + d_1}{2} = d, \text{ etc.}$$

They are used in conjunction with the simple odd differences a_1, c_1 , etc., and the formula is

$$F_n - F_0 = na_1 + \frac{n(n-1)}{2!} b + \frac{n(n-1)(n-\frac{1}{2})}{3!} c_1 + \frac{(n+1)n(n-1)(n-2)}{4!} d \\ + \frac{(n+1)n(n-1)(n-2)(n-\frac{1}{2})}{5!} e_1 + \dots$$

When $n = \frac{1}{2}$, or for interpolation to the middle of an interval, the coefficient of c_1 vanishes and $F_n - F_0$ is independent of third differences, which is clearly a great advantage. In general this method is very advantageous when n approaches one-half, while Stirling's formula is preferred for small values of n .

When Bessel's formula is used for backward interpolation, it may be written

$$F_{-n} - F_0 = -na' + \frac{n(n-1)}{2!} \left(\frac{b_0 + b'}{2} \right) - \frac{n(n-1)(n-\frac{1}{2})}{3!} c' + \dots,$$

n being taken as positive.

A distinct method of interpolation is founded directly upon Taylor's theorem. If $F_0', F_0'',$ etc., are the successive derivatives of F_0 , and ω is the constant increment of the argument, this fundamental theorem may be written

$$F_n - F_0 = n \omega F_0' + \frac{n^2 \omega^2 F_0''}{2!} + \frac{n^3 \omega^3 F_0'''}{3!} + \frac{n^4 \omega^4 F_0^{(4)}}{4!} + \dots \dots (a),$$

and this becomes an interpolation formula when the derivatives are expressed in terms of the differences. This is readily accomplished to any degree of exactness whenever the differences become rigorously or sensibly constant at some particular order and the tabular interval is small relatively to the period of the function. To find the numerical values of the derivatives it is not necessary that the analytical expression of the function should be known; for, rearranging the terms of the formula of Bessel and Stirling according to ascending powers of n and comparing coefficients,

(Bessel.)

(Stirling.)

$$F_0' = \frac{1}{\omega} (a_1 - \frac{1}{2} b + \frac{1}{12} c_1 + \frac{1}{12} d - \frac{1}{120} e_1 - \dots) = \frac{1}{\omega} (a_0 - \frac{1}{6} c_0 + \frac{1}{30} e_0 - \dots)$$

$$F_0'' = \frac{1}{\omega^2} (b - \frac{1}{2} c_1 - \frac{1}{12} d + \frac{1}{24} e_1 + \dots) = \frac{1}{\omega^2} (b_0 - \frac{1}{12} d_0 + \dots)$$

$$F_0''' = \frac{1}{\omega^3} (c_1 - \frac{1}{2} d + 0 \dots) = \frac{1}{\omega^3} (c_0 - \frac{1}{4} e_0 + \dots)$$

$$F_0^{(4)} = \frac{1}{\omega^4} (d - \frac{1}{2} e_1 - \dots) = \frac{1}{\omega^4} (d_0 - \dots)$$

$$F_0^{(5)} = \frac{1}{\omega^5} (e_1 - \dots) = \frac{1}{\omega^5} (e_0 - \dots).$$

Hence, to compute the first derivative, say from Stirling's formula, when the 6th differences and $\frac{1}{30}$ of the mean of the corresponding third differences are negligible, it is only needful to take the mean of the first differences preceding and following the tabular value of the function, subtract from it one-sixth ($\frac{1}{6}$) of the mean of the corresponding third differences, and divide the result by ω .

Newton's formula gives for arguments near the beginning of the series of tabular values:

$$F_0' = \frac{1}{\omega} (a_1 - \frac{1}{2} b_1 + \frac{1}{8} c_2 - \frac{1}{4} d_2 + \frac{1}{5} e_3 - \dots)$$

$$F_0'' = \frac{1}{\omega^2} (b_1 - c_2 + \frac{11}{12} d_2 - \frac{5}{6} e_3 + \dots)$$

$$F_0''' = \frac{1}{\omega^3} (c_2 - \frac{3}{2} d_2 + \frac{7}{4} e_3 - \dots)$$

$$F_0^{iv} = \frac{I}{\omega^4} (d_2 - 2e_3 + \dots)$$

$$F_0^v = \frac{I}{\omega^5} (c_8 - \dots),$$

and for arguments near the end of the series of tabular values,

$$F_0' = \frac{I}{\omega} (a' + \frac{1}{2} b' + \frac{1}{8} c'' + \frac{1}{4} d'' + \frac{1}{5} e''' + \dots)$$

$$F_0'' = \frac{1}{\omega^2} (b' + c'' + \frac{11}{2} d'' + \frac{5}{8} e''' + \dots)$$

$$F_0''' = \frac{1}{\omega^3} (c'' + \frac{3}{2} d'' + \frac{7}{4} e''' + \dots)$$

$$F_0^{iv} = \frac{1}{\omega^4} (d'' + 2e''' + \dots)$$

$$F_0^v = \frac{1}{5} (c''' + \dots).$$

The differences of the derivatives may of course be found and discussed in the same manner as those of any other function, and the higher derivatives, F_n'', F_n''', \dots can be expressed in terms of the differences of F_n' . To distinguish the differences of F' from those of F , they may be denoted by Greek letters, and the notation is exhibited in the following scheme :

$$F'_{-2}$$

$$F' = 1$$

F_9'

F_1'

F'

ling's rences

$$\beta_0 \quad \gamma'$$

$$\beta_1 \quad \gamma_1$$

læ, pag
ow

$$a_1 + a' = 2 a_0$$

$$\gamma_1 + \gamma' = 2\gamma$$

Using Stirling's formulæ, page xxxvi, the successive derivatives inclusive of fifth differences are now

$$F_0'' = \frac{1}{\omega} (\alpha_0 - \frac{1}{6} \gamma_0); F_0''' = \frac{1}{\omega^2} (\beta_0 - \frac{1}{12} \delta_0); F_0^{iv} = \frac{1}{\omega^3} (\gamma_0); F_0^v = \frac{1}{\omega^4} (\delta_0);$$

and the interpolation formula may be written

$$F_n = F_0 + n \omega F_0' + \frac{n^2 \omega}{2!} (\alpha_0 - \frac{1}{6} \gamma_0) + \frac{n^3 \omega}{3!} (\beta_0 - \frac{1}{2} \delta_0) + \frac{n^4 \omega}{4!} \gamma_0 + \frac{n^5 \omega}{5!} \delta_0;$$

or, neglecting fifth differences,

$$F_n = F_0 + n\omega \left[F_0' + \frac{n}{2} \alpha_0 + \frac{n^2}{6} \beta_0 + \frac{n}{12} \left(\frac{n^2}{2} - 1 \right) \gamma_0 \right],$$

and for backward interpolation

$$F_{-n} = F_0 - n\omega \left[F'_0 - \frac{n}{2} \alpha_0 + \frac{n^2}{6} \beta_0 - \frac{n}{12} \left(\frac{n^2}{2} - 1 \right) \gamma_0 \right].$$

In the tables which follow, the first derivatives multiplied by ω are tabulated in units of the last decimal place of the tabulated function (except Table VII), and the remaining quantities required in the computation can be found by mere inspection. The higher order of differences will be needed only for a very few arguments at the beginning or end of those tabular values whose numerical magnitudes approach 0 or ∞ . For the remaining arguments it will be found that the $\frac{1}{48}$ part of the second difference of $\omega F'_n$ is not great enough to influence the result, and it is therefore sufficient to use

$$\begin{aligned} F_n &= F_0 + n \omega (F'_0 + \frac{n}{2} a_0) \\ F_{-n} &= F_0 - n \omega (F'_0 - \frac{n}{2} a_0) \end{aligned} \quad (b),$$

ωa_0 being the mean first difference of $\omega F'$ corresponding to F_0 . This formula is rigorous when third differences are zero. In most cases $\frac{n \omega a_0}{2}$ can be found

mentally, and since $\omega (F'_0 + \frac{n}{2} a_0)$ is here to be regarded as an interpolated value of $\omega F'_0$, no confusion can arise as to the sign of the correction. It thus becomes almost as easy to include ωa_0 in the computation as to omit it. A convenient rule is: Find by linear interpolation the value $\omega F'$ for one-half the interval ($\frac{n}{2}$); multiply this interpolated value by the entire interval (n) and apply the product to the tabular value of the function, either positively or negatively, according as the function is increasing or decreasing. To illustrate the application of this rule, find $\log_{10} \sinh 0.00304$. In this case $n = 0.4$ and the table gives

$$F_0 = 7.47712; \omega F'_0 = 1447.7; \omega a_0 = -48.3,$$

the last two quantities being expressed in units of the fifth decimal place. Interpolating $\omega F'$ linearly for one-half the interval,

$$\omega F'_{\frac{n}{2}} = \omega (F'_0 + \frac{n}{2} a_0) = 1447.7 - 0.2 \times 48.3 = 1438.0;$$

multiplying this value by n and adding the result to the tabular value of the function, there results

$$F_n = 1438.0 \times 0.4 + 7.47712 = 7.48287.$$

The corresponding difference formula (Bessel's) is

$$F_n = F_0 + n \left[a_1 - \frac{(1-n)}{2} b \right].$$

The derivative formula (b) with two terms has the advantage of being much more convenient than the difference formula, while the accuracy of the two is the same (five-eighths of a unit) when the derivatives are tabulated to the

same order of decimal as the function. In the case of linear interpolation, however, it is in general more accurate to use the differences, the maximum error of the difference formula being one-half of a unit and that of the derivative formula three-fourths of a unit in the next succeeding decimal place. The accuracy of the two formulas is the same when the next succeeding decimal of the derivative is tabulated. The error of the derivative formula is then simply the error of the tabular value, while the error of the difference formula may be $=$, $>$ or $<$ than that of the tabular value, but is never greater than one-half of a unit.

Interpolation formulas which are applicable only to a single function are rarely advantageous, because as much time is often consumed in looking them up as is saved by employing them; but some formulas applicable to hyperbolic functions are so simple that when once suggested they can hardly be forgotten. Thus, Taylor's theorem gives at once

$$\cosh(u + n\omega) - \cosh u = n\omega \sinh u + \frac{n^2\omega^2}{2!} \cosh u + \frac{n^3\omega^3}{3!} \sinh u + \dots,$$

and the form for the sine is of course similar. Again, when, as here, the cosine is tabulated with an argument in terms of radians,

$$\cos(u + n\omega) - \cos u = -n\omega \sin u - \frac{n^2\omega^2}{2!} \cos u + \frac{n^3\omega^3}{3!} \sin u + \dots,$$

the series for the sine being similar.

So, too,

$$\begin{aligned} \log_e(u + n\omega) - \log_e u &= \log_e \left(1 + \frac{n\omega}{u} \right) \\ &= \frac{n\omega}{u} - \frac{1}{2} \frac{n^2\omega^2}{u^2} + \frac{1}{3} \frac{n^3\omega^3}{u^3} - \frac{1}{4} \frac{n^4\omega^4}{u^4} + \dots \quad \left(\frac{n^2}{u^2} < 1. \right) \end{aligned}$$

Simplest of all is the exponential,

$$\begin{aligned} e^{u+n\omega} - e^u &= e^u (e^{n\omega} - 1) = e^u \left(n\omega + \frac{n^2\omega^2}{2!} + \frac{n^3\omega^3}{3!} + \dots \right) \dots (c), \\ &= e^u (+0.01n + 0.000,05n^2 + 0.000,000,167n^3 + \dots), \quad (\omega = 0.01) \\ &= e^u (+0.001n + 0.000,000,5n^2 + \dots). \quad (\omega = 0.001) \end{aligned}$$

The series in $n\omega$ may be replaced by h , and this may have any finite value. Especially when a computing machine is available, this formula is easily applied and is, of course, rigorous.

From time to time inverse interpolation by a method more accurate than first differences is called for; indeed, whenever interpolation of a function by higher differences is needful, it is equally needful that the argument corresponding to a given function should be ascertained by a like process. The method ordinarily pursued in such cases is to estimate two values of the argument, one a little greater and the other a little less than that of the required argument, interpolate corresponding values of the function, and finally interpolate linearly over the reduced interval for a final value of the argument.

Another method consists in interpolating values of the function and its derivatives for an approximate value of the required interval and then computing a correction to this approximate value by means of a reversed Taylor's series.¹

If second differences only are to be taken into account, the usual method of procedure is to estimate an approximate value of n , say n' , and with this estimated value we interpolate linearly as before and find the value of $\omega F'_{\frac{n'}{2}}$

corresponding to one-half of the estimated interval $\left(\frac{n'}{2}\right)$. Then the required interval (n) is equal to the difference between the given value and the nearest tabular of the function divided by $\omega F'_{\frac{n'}{2}}$. This method is in fact simply the reverse of the one for direct interpolation. A recomputation is of course necessary if the values of n and n' are not practically the same. As an illustration, find u when $\log_{10} \sinh u = 7.48287$. We first compute

$$n' = \frac{7.48287 - 7.47712}{1448.0} = 0.4,$$

then the value of $\omega F'_{\frac{n'}{2}}$ in terms of the last tabular unit is found as before by linear interpolation to be 1438.0. Hence

$$n = \frac{7.48287 - 7.47712}{1438.0} = 0.40 \text{ and } u = 0.00304.$$

Since the estimated and computed values of the interval agree, there is no need of a recomputation.

The methods which are based upon an estimated value of the argument are unsystematic and clumsy. It is much better to use a formula which gives the required result by a direct and rigorous method. To find such a formula, divide Taylor's series (eq. a) by $\omega F'_0$, and put

$$n_1 = \frac{F_n - F_0}{\omega F'_0}; f_2 = \frac{\omega^2 F''_0}{2 \omega F'_0}; f_3 = \frac{\omega^3 F'''_0}{6 \omega F'_0}; f_4 = \frac{\omega^4 F^{(4)}_0}{24 \omega F'_0}; f_5 = \frac{\omega^5 F^{(5)}_0}{120 \omega F'_0};$$

then the interpolation formula may be written

$$n_1 = n + f_2 n^2 + f_3 n^3 + f_4 n^4 + f_5 n^5.$$

Reversing this series in accordance with the relation,²

$$\begin{aligned} x &= \frac{y}{a_0} + \frac{y^2}{a_0^3} (-a_1) + \frac{y^3}{a_0^5} (-a_0 a_2 + 2 a_1^2) \\ &\quad + \frac{y^4}{a_0^7} (-a_0^2 a_3 + 5 a_0 a_1 a_2 - 5 a_1^3) \\ &\quad + \frac{y^5}{a_0^9} (-a_0^3 a_4 + 3 a_0^2 (a_2^2 + 2 a_1 a_3) - 21 a_0 a_1^2 a_2 + 14 a_1^4), \end{aligned}$$

¹Rice's Theory and Practice of Interpolation, section 83.

²Prof. James McMahon: "On the General Term in the Reversion of Series." Bull. Am. Math. Soc., April, 1894.

which is the reversed series of

$$y = a_0 x + a_1 x^2 + a_2 x^3 + a_3 x^4 + a_4 x^5;$$

and rearranging the terms,¹

$$\begin{aligned} n = n_1 + n_1 [& -n_1 f_2 + 2 (n_1 f_2)^2 - 5 (n_1 f_2)^3 + 14 (n_1 f_2)^4 + \dots] \\ & + n_1^2 [n_1 f_3 (-1 + 5 (n_1 f_2) - 21 (n_1 f_2)^2 + \dots)] \\ & + n_1^3 [n_1 f_4 (-1 + 6 n_1 f_2) + 3 (n_1 f_3)^2 + \dots] \\ & + n_1^4 [-n_1 f_5 + \dots] \quad \dots \quad \dots \quad \dots \quad (d). \end{aligned}$$

In the actual computation it is convenient to put

$$r = \frac{n_1}{2 \omega F_0'};$$

then, when successive values of $\omega F_n'$ are tabulated in units of the last decimal place, and Stirling's coefficients are used,

$$\begin{aligned} n_1 f_2 &= r \omega (a_0 - \tfrac{1}{6} \gamma_0) & n_1 f_3 &= \tfrac{1}{8} r \omega (\beta_0 - \tfrac{1}{12} \delta_0) \\ n_1 f_4 &= \tfrac{1}{12} r \omega \gamma_0 & n_1 f_5 &= \tfrac{1}{16} r \omega \delta_0. \end{aligned}$$

The formula is rigorous inclusive of fifth differences, and does not require the computation of an approximate value of n . It is applicable to any function or series of tabulated values whose successive derivatives become evanescent. It is particularly convenient when differences higher than the second are neglected. The formula then becomes

$$n = n_1 + n_1 [-r \omega a_0 + 2 (r \omega a_0)^2 - 5 (r \omega a_0)^3 + 14 (r \omega a_0)^4].$$

Since $r \omega a_0$ is a very small quantity, the higher powers are seldom needed, and, should they be required, are easily taken into account. As an example, let it be required to find u when $\log_{10} \sinh u = 7.48287$. We compute

$$\begin{aligned} n_1 &= \frac{7.48287 - 7.47712}{1447.7} = 0.40 \\ r &= \frac{n_1}{2 \omega F_0'} = \frac{0.40}{2 \times 1447.7} = 0.0001; \end{aligned}$$

and

$$n_1 r \omega a_0 = 0.40 \times 0.0001 \times (-48.3) = 0.00.$$

Hence $n = n_1 = 0.40$ and $u = 0.00304$, the same as obtained by the other method.

When $F_n = e^u$, it is easily shown, either by means of series (d) or by independent methods, that

$$\begin{aligned} n \omega &= \log (1 + n_1 \omega) \quad \dots \quad \dots \quad \dots \quad (e), \\ n &= +n_1 - 0.005 n_1^2 + 0.000,033 n_1^3 + \dots, \quad (\omega = 0.01) \\ n &= +n_1 - 0.0005 n_1^2 + \dots \quad (\omega = 0.001) \end{aligned}$$

These formulæ afford an easy means of finding the natural logarithm of a

¹ See, also, "Inverse Interpolation by Means of a Reversed Series," *Phil. Mag.*, May, 1908.

number from the tabular values of $e^{\pm u}$. Thus, to find the natural logarithm of 0.9642102, we compute

$$n_1 = \frac{0.9646403 - 0.9642102}{0.0009646403} = 0.44587.$$

Substituting in the last of the above equations

$$n = 0.44587 - 0.0005 \times (0.45)^2 = 0.44577,$$

hence $\text{nat log of } 0.9642102 = -0.0364458$.

One of the most important applications of differences is the detection of errors in values tabulated at equal intervals of the argument. It may be shown by substitution in the schedule of differences (page xxxiv) that an error, $+\epsilon$, in F_0 produces errors in the successive differences of any order which are multiples of ϵ , the law of distribution of the multiples being that of the corresponding coefficients of the binomial theorem, and the signs of the errors being alternately positive and negative. Since some order of differences of every continuous function must vanish, the presence of an error in a tabular value must ultimately result in producing successive differences of a certain order which alternate in sign. A comparison of these differences with the corresponding binomial coefficients enables one to estimate the magnitude of the error. Thus in the series which follows:

| X | X^3 | Δ' | Δ'' | Δ''' | Δ^{iv} |
|-----|-------|-----------|------------|-------------|---------------|
| 13 | 2197 | | | | |
| | | 547 | | | |
| 14 | 2744 | 631 | 84 | | |
| | | 721 | 90 | 6 | |
| 15 | 3375 | 819 | 98 | 8 | + 2 |
| | | 917 | 98 | 0 | - 8 |
| 16 | 4096 | 1027 | 110 | 12 | + 12 |
| | | 1141 | 114 | 4 | - 8 |
| 17 | 4915 | 1261 | 120 | 6 | + 2 |
| | | | | | |
| 18 | 5832 | | | | |
| | | | | | |
| 19 | 6859 | | | | |
| | | | | | |
| 20 | 8000 | | | | |
| | | | | | |
| 21 | 9261 | | | | |

the alternation in sign occurs in the fourth-order differences, and the numerical values are twice the coefficients of $(a+b)^4$. Hence there is an error of +2 units in the value 4915. The corrections -2, +8, -12, +8, -2 applied to the fourth differences causes them to vanish, and the corrections -2, +6, -6, +2 applied to the third differences reduces them to a constant.

This method is particularly useful in detecting large accidental errors in a series of observed values and in estimating their magnitudes.

DESCRIPTION OF TABLES.

Table I is devoted to 5-place values of the logarithmic hyperbolic sine, cosine, tangent, and cotangent of u expressed in radians. The argument u advances by ten-thousandths from 0 to 0.1, by thousandths from 0.1 to 3.0, and by hundredths from 3.0 to 6.0. In this as in all the tables (except Table VII), instead of the first differences, the first derivatives of the functions multiplied by the tabular interval (ω) are tabulated in units of the last decimal place, under the heading $\omega F'_0$. As noted above, this agrees with much of the most authoritative modern practice and facilitates interpolation. It did not appear worth while to extend the tabulation of the table beyond six radians, because higher values are seldom needed; but in Table IV a few very high values of $e^{\pm u}$ are given, from which in case of need the hyperbolic functions can be found.

In Table II the natural values of the hyperbolic functions are tabulated for the same arguments as in Table I. In some instances the values are given to one or to two places of decimals more than would be obtained by taking the inverse logarithms of the preceding table.

Table III gives $\sin u = -i \sinh iu$ and $\cos u = \cosh iu$ with their logarithms to 5 decimal places, the argument u being expressed in radians. The tabulation extends from $u = 0.0000$ to 0.1000, and from $u = 0.100$ to 1.600, because $90^\circ = 1.570\ 7963$ radians; so that, this value of $\frac{\pi}{2}$ being borne in mind, the table affords the means of finding the sine or cosine of any arc expressed in radians.

Independently of hyperbolic functions, this table is often convenient. It also facilitates the computation of the principal hyperbolic functions of complex variables. Thus

$$\sinh(u \pm iv) = \sinh u \cos v \pm i \cosh u \sin v,$$

$$\cosh(u \pm iv) = \cosh u \cos v \pm i \sinh u \sin v,$$

and to compute either of these functions it is only needful to take out two tabulated logarithms from Table III, two from Table I, make two additions, and look out two antilogarithms. It is of course conceivable that all the four quantities involved should be tabulated once for all; but even if u and v advanced only by hundredths, such a table would occupy 200 pages. To find from it functions corresponding to u and v expressed in thousandths would require three interpolations—a process quite as laborious as the use of the tables here given.

Space which would otherwise be vacant is utilized to give the angular values of the radian arguments, or a table of conversion of radians from

0.0000 to 0.1000 and from 0.100 to 1.600 into degrees, minutes, seconds, and hundredths of a second.

Table IV gives the values of $\log_{10} e^u$, e^u and e^{-u} to 7 decimal places from $u = 0.000$ to 3.000 and from 3.00 to 6.00 . The values of e^u and e^{-u} enter into a vast number of equations representing natural phenomena, especially those (as Cournot remarked) which can be classed under the generic denomination of phenomena of absorption or gradual extinction. The ascending and descending exponentials may be regarded at will either as hyperbolic functions or as independent components of hyperbolic functions, since

$$e^{\pm u} = \cosh u \pm \sinh u$$

while, on the other hand,

$$\sinh u = \frac{e^u - e^{-u}}{2}; \quad \cosh u = \frac{e^u + e^{-u}}{2};$$

$$\tanh u = \frac{e^u - e^{-u}}{e^u + e^{-u}}; \quad \text{gd } u = 2 \tan^{-1} e^u - \frac{\pi}{2}.$$

It is further evident that a table of $e^{\pm u}$ is a table of natural antilogarithms. Formula *e* on page xli affords an easy means of obtaining the natural logarithm of a number from the tabular values of $e^{\pm u}$. It is of course unnecessary to give the derivative of e^u , since this is e^u , while the derivative e^{-u} is $-e^{-u}$. In general the interpolation or extrapolation of the function is very easy. (See formula *c*, page xxxix). The logarithm of e^{-u} is not given because, being merely the arithmetical complement of the $\log_{10} e^u$, it can be read off as fast as it can be written down.

In any table of $\log_{10} e^u$ where the interval of u is ω , the difference of successive logarithms is constant and equal to $\omega \log_{10} e$ or $0.4342\ 9448\ \omega$. If the logarithm of $e^{u+n\omega}$ is required, this will be

$$(u + n\omega) \log_{10} e = \log_{10} e^u + n\omega \log_{10} e.$$

Hence it is practicable to prepare an extended table of proportional parts or a table of $n \log_{10} e$ which is applicable to any table of $\log_{10} e^u$ when the tabulated values are multiplied by ω . Such an auxiliary table is given at the close of Table IV, in which the argument $\frac{n}{\omega}$ varies from 0.000 to 0.500. If ω is unity, this is merely a 5-place table of $\log_{10} e^u$. If, on the other hand, ω is 0.001, as in the earlier part of Table IV, the auxiliary table gives the increments corresponding to n to 8 places of decimals. Thus, if $\log_{10} e^{0.088245}$ is required, Table IV gives $\log_{10} e^{0.088} = 0.0382179$, the auxiliary table gives for $\frac{n}{\omega} = 0.245$, $n \log_{10} e = 0.10640$; and since $\omega = 0.001$, $\omega n \log_{10} e = 0.00010640$, which added to $\log_{10} e^{0.088}$, gives $\log_{10} e^{0.088245} = 0.0383243$. In the latter portion of Table IV ω is only 0.01; so that, if the $\log_{10} e^{3.00245}$ is wanted, the main table gives $\log e^{3.00} = 1.3028834$, and ω times $n \log e$ is 0.0010640; so that the required number is 1.3039474.

When $\log_{10} e^u$ is required for $u > 6.00$ the auxiliary table is insufficient to give 7-place values. Then the main table, IV, may be used as an auxiliary table. Thus

$$\begin{aligned}\log e^{11.088245} &= \log e^{11} + \log \\ &= 4.7772393 + 0.0383243 = 4.8155636.\end{aligned}$$

In the second part of Table IV values of $e^{\pm u}$ and the logarithms of e^u are given, u varying from 1 to 100. The logarithms are given to 10 decimals; the other functions to 9 significant figures. Such high values are seldom needed, but are included here lest these tables might some times fail the computer.

Table V gives the natural logarithms of numbers from 1 to 1000, with their derivatives to 5 places of decimals. These derivatives are merely the reciprocals of the arguments, and since $\log_e \left(\frac{1}{y} \right) = -\log_e y$, the logarithms of the derivatives are the tabulated logarithms taken negatively. The table thus gives, in addition to the logarithms of 1000 whole numbers, the logarithms of 1000 proper fractions lying between 0.001 and unity.

The interpolation of natural logarithms is much less simple than is that of common logarithms, and this is the main reason why the latter are preferred for computation. A few simple rules, however, facilitate the needful calculations. When the natural logarithm of a vulgar fraction is required it is best to look out the logarithm of both numerator and denominator and subtract. If the natural logarithm is required of a fractional number stated decimally and less than 21.000, no attempt should be made to interpolate it directly, because the third differences of the table cannot be neglected for numbers so near the beginning of the table. If the number lies between 10.000 and 21.000, as, for example, 12.345, it should be written 123.45/10, and the required logarithm will be $\text{nat log } 123.45 - \text{nat log } 10$. It is safe to interpolate the first of these between $\text{nat log } 123$ and $\text{nat log } 124$, using the formula for second differences. If the number whose logarithm is to be found lies between 1 and 10, as, for example, 8.2468, it should be written 824.68/100, so that the required quantity is $\text{nat log } 824.68 - \text{nat log } 100$. The first of these logarithms can be found by using only the mean first differences or the tabulated derivatives between the logarithms of 824 and 825. For values of the argument between 21 and 158 interpolation requires the use of second differences, while above 158 average first differences or the first derivative is sufficiently accurate, inasmuch as the error involved is less than half a unit in the fifth decimal place.

It would be possible to interpolate the negative logarithms of the smaller fractions given by the derivatives—that is, from the reciprocal of 159 on to the end of the table, or for numbers between 0.00628 and 0.00100—but this would not be expedient, because these reciprocals are themselves rounded values. If the natural logarithm of 0.0068352 is wanted as accurately as

the tables will give it, it is best to find the logarithm of 683.52 and to subtract from it the logarithm of 100,000. (See also formula e , page xli.)

The use of second differences may be avoided altogether if the computer chooses, for any number not lying between 158 and 1,000 may be multiplied and divided by another number which will bring the numerator within these limits. Thus, if, as before, $\text{nat log } 12.345$ is required, this number may be written $246.90/20$, and the natural logarithm of the numerator found by help of the derivative, less $\text{nat log } 20$, is the required value.

The awkwardness of a table of natural logarithms is inherent and cannot be overcome by any device. It depends on the fact that e and the base of numeration, the number 10, are incommensurable quantities. If our numeration were duodecimal, as it might have been had six fingers to a hand been the rule instead of the exception, 12 would also have been the most convenient base for a table of logarithms. A great table of natural logarithms, such as Barlow's 8-place table of all numbers from 1 to 10,000, is only a little more convenient than that here offered, and with it, too, it is expedient to multiply any small number by a factor such that the product approaches 10,000.

Table VI gives the values of the gudermannian of u to 7 places from $u = 0.000$ to $u = 3.000$ and from $u = 3.00$ to $u = 6.00$. In this table u is expressed in radians, and $gd\,u$ both in radians and in angular measure. For theoretical work the gudermannian in radians is usually the more convenient, but for use in finding hyperbolic functions it must be reduced to an angle.

The gudermannian, $gd\,u$, is connected with the hyperbolic functions by the following well-known relations :

$$\sinh u = \tan gd\,u; \cosh u = \sec gd\,u; \tanh u = \sin gd\,u$$

$$\tanh \frac{u}{2} = \tan \frac{1}{2} gd\,u; u = \log_e \tan \left(\frac{\pi}{4} + \frac{1}{2} gd\,u \right).$$

Thus Table VI, with the help of a 7-place table of logarithms of the circular functions, gives 7-place values of the hyperbolic functions.

The derivative of $gd\,u$ is $\text{sech } u$, and can be used independently of the gudermannian.

Table VII is substantially a reversion of Table VI, and gives the anti-gudermannian in terms of the gudermannian, both, however, being expressed in minutes and decimals of a minute. If m is the antigudermannian expressed in minutes and u the same function expressed in radians,

$$m = 3437.7468\,u = 3437.7468 \log_e \tan \left(\frac{\pi}{4} + \frac{1}{2} gd\,u \right).$$

Table VII is a table of m , and if m is multiplied by 0.000 2908 8821 the product is u in radians. This table is known to navigators as a table of Meridional Parts for a Spherical Globe. It is frequently of use in the discussion of physical questions and is the very foundation of navigation with Mercator charts. In the more modern works on navigation, however, the

ellipticity of the meridian is allowed for in computing tables of meridional parts, and consequently this table will probably never be reproduced in a navigator. For this reason it is here preserved for computers who are not engaged in navigation.

To test this table, which is borrowed from Inman, 200 of the values, or one in every 27 entries, were compared with Gudermann's 7-decimal place table of the antigudermannian in radian measure. In nearly all cases Inman's last figure was confirmed, but in a few instances the last figure is incorrect by a unit. Inquiry into these cases showed that the maximum error detected was less than 0.006 of a minute. Thus the last figure is not absolutely trustworthy, but is near enough to enable the computer to interpolate accurately to 5 places. If 7 places of the antigudermannian are required, they can be found by inverse interpolation in Table VI.

The earlier part of Table VII may be interpolated by first differences without considerable error. At about $84^{\circ}30'$ one-eighth of the second difference becomes approximately half a unit in the last tabulated place, and beyond this point second differences should be taken into account.

Table VIII is a table for converting radians into angular measure and *vice versa*. A few numerical constants are appended.

HISTORICAL NOTE.

The first and most important application of the functions now known as hyperbolic was made by Gerhard Mercator (Kremer) when he issued his map on "Mercator's projection," in 1569, or, as some say, in 1550, while Bowditch gives the date as 1566. To this day substantially all of the deep-sea navigation of the world is carried on by the help of this projection, which has been modified only to the extent of correcting the "meridional parts" for the ellipticity of the meridian. Mercator's problem was to find a projection on which the loxodrome should be a straight line. The solution is unique, and for a spherical globe is $\lambda = gd \frac{m}{a}$ where λ is the latitude, m the "meridional part," or the ordinate on the projection of a point in latitude λ , and a is the radius of the sphere. Of course, this relation gives

$$\frac{m}{a} = \log_e \tan \left(\frac{\pi}{4} + \frac{\lambda}{2} \right)$$

and this Mercator must have tabulated. He published his map without explanation, however, and it was left to Edward Wright in 1599 to state the formula for m .

"The actual inventor of the hyperbolic trigonometry," says Professor McMahon, "was Vincenzo Riccati, S. J. (*Opuscula ad res Phys. et Math. pertinens*, Bononiae, 1757). He adopted the notation *Sh. ϕ* , *Ch. ϕ* , for the hyperbolic functions and *Sc. ϕ* , *Cc. ϕ* for the circular ones. He proved the addition theorem geometrically, and derived a construction for the solution of a cubic equation. Soon after Daviet de Foncenex showed how to interchange circular and hyperbolic functions by the use of $\sqrt{-1}$, and gave the analogue of de Moivre's theorem, the work resting more on analogy, however, than on clear definition (*Reflex. sur les quant. imag.*, Miscel. Turin Soc., Tom. 1). Johann Heinrich Lambert systematized the subject and gave the serial developments and the exponential expressions. He adopted the notation $\sinh u$, etc., and introduced the transcendent angle, now called the gudermannian, using it in computation and in the construction of tables¹."

C. Gudermann published an important memoir on Potential or Cyclic-hyperbolic functions in 1830², followed by extended tables. In recogni-

¹ James McMahon, *Hyperbolic Functions*, p. 71.

² Crelle's Journal, vols. 6, 7, 8, and 9. These memoirs were afterwards reprinted in a separate volume. xlviii

tion of his contributions to the subject, Cayley, in 1862,¹ proposed the name gudermannian² for the angle which Lambert called *transcendent*, and which had been variously designated by others. Among other more recent works on hyperbolic functions are Siegmund Günther's *Lehre von den Hyperbelfunctionen*, 1881, and Mr. James McMahon's *Hyperbolic Functions*, 4th edition, 1906.

The first large table of hyperbolic functions we have met with is Legendre's table of $\log \tan \left(\frac{\pi}{4} + \frac{\lambda}{2} \right)$ to 12 decimals. The argument advances

by increments of 30 minutes, but five differences are tabulated to facilitate interpolation.³ Gudermann in 1831 published a table of the same function, using centesimal degrees and advancing by hundredths of a degree ($0^{\circ}0'32''.4$) from 0 to an entire quadrant, the function being given to seven decimal places. This was later supplemented by a table advancing by hundredths of a degree from 88° to 100° , the function being given to eleven decimal places. Gudermann also gave a 9-place table of $\log \cosh u$, $\log \sinh u$, and $\log \tanh u$, from $u = 2.000$ to $u = 5.000$, and a 10-place table of the same functions from $u = 5.00$ to $u = 12.00$.

In 1862 Z. F. W. Gronau⁴ published a 5-place table of hyperbolic functions, the argument being the gudermannian $gd\ u$ in sexagesimal degrees and minutes. He tabulated to this argument $\log \cosh u$, $\log \sinh u$, and the

Briggs logarithm of $\left(\frac{\pi}{4} + \frac{gd\ u}{2} \right)$ instead of the natural logarithms of this function, following therein a suggestion of Lambert.

In 1890 W. Ligowski issued his *Tafeln der Hyperbelfunctionen und der Kreisfunctionen*, which is admirably accurate and much the most useful collection of tables of the hyperbolic functions hitherto printed. He filled the gap left by Gudermann by computing $\log \sinh u$, $\log \cosh u$, and $\log \tanh u$ from $u = 0.000$ to 2.000 . These he gives to only 5 places, but in addition he tabulates $gd\ u$ in degrees, minutes, seconds, and decimals of a second. These values are in all cases sufficiently accurate to enable the computer to take out from an ordinary table of logarithms 7-place values of the logarithms of $\cosh u$, $\sinh u$, and $\tanh u$. The argument ranges from 0.000 to 2.000 and from 2.00 to 6.00 for $gd\ u$, while $\log \cosh u$ and $\log \sinh u$ are carried up to $u = 9.00$. Ligowski also gives the natural functions $\cosh u$, $\sinh u$, $\cos u$, and $\sin u$ to 6 decimals for values of u in radians from 0.00 to 2.00, the $\cosh u$ and $\sinh u$ being continued to $u = 8.00$. The only fault we can find with Ligowski's tables is that the increments of the argument are sometimes inconveniently large.

¹ Phil. Mag., vol. 24, p. 19.

² Thus spelled in Cayley's paper.

³ Exercices de Cal. Int., vol. 2, 1816.

⁴ Neueste Schriften der Naturforscher-Gesellschaft in Danzig, vol. 6, 1862.

In 1883 F. W. Newman published a 12-place table¹ of the descending exponential from $u = 0.000$ to $u = 15.349$, and a 14-place table of the same function advancing by two-thousandths from 15.350 to 17.298 and by five-thousandths from 17.298 to 27.635. In the same volume appeared Mr. J. W. L. Glaisher's tables of the ascending and descending exponential to nine significant figures, with 10-place logarithms. The argument advances by one-thousandth to 0.1; by one-hundredth to 2.00; by one-tenth to 10, and by a single unit to 500.

Mr. A. Forti's *Nuove Tavole delle Funzioni Iperboliche* were published in 1892. The hyperbolic sines, cosines, and tangents, together with their logarithms, are given to six decimals from 0.0000 to 0.2000, from 0.200 to 2.000, and from 2.00 to 8.00. Frequent errors, however, of one, two, and three units in the last decimal place practically limit these tables to five places. The gudermannian is tabulated in degrees, minutes, seconds, and tenths of a second, and the logarithms of the arguments are given to seven places.

In the volume here presented the first thousand values of $\log \sinh u$, $\log \cosh u$, and $\log \tanh u$ have been computed; the remaining values have been taken from the tables of Gudermann or Ligowski. The values of the natural hyperbolic sines and cosines for values of the argument < 0.1 and of the tangents for arguments > 2.0 have been computed; the remaining values have been taken from the tables of Forti and Ligowski. A recomputation of a great number of the borrowed values was made in order to obtain the required accuracy. The values of $\coth u$ and $\log \coth u$ have been computed.

In Table III the sines and cosines were obtained by interpolation from the 7-place values of natural sines and cosines given in Hülse's Vega, where the argument is expressed in angle. The logarithms of the sines and cosines and the angular equivalents of the arguments have been computed.

In Table IV the values of e^{-u} are all taken from Newman's great table. Those of e^{+u} from 0.000 to 0.100 and from 1 to 100 are from Glaisher's table. The remainder we computed, checking the results by Glaisher's table or by reciprocating. It should be noted that the 7-place table of e^u given in Hülse's edition of Vega is inaccurate and really amounts to no more than a 5-place table. The logarithms of e^u were computed independently of the values of e^u .

Tables V and VIII are borrowed.

The values of $gd\ u$ in Table VI in terms of angle are taken from Ligowski, excepting the thousand values between $u = 2.000$ and 3.000 . These were interpolated from Ligowski's values (2.00 to 3.00) with due checks on his accuracy. In preparing the table of $gd\ u$ in radians it was necessary for us to make an independent computation of this function from $u = 0.300$ to $u = 3.000$ in order to secure accuracy in the seventh significant figure. The remaining values were derived from Ligowski by converting angles

¹Cambridge Phil. Soc., Trans., vol. 13, 1883.

into radians. A considerable number of his values, however, were tested by independent computation.

Table VII is borrowed from the Nautical tables of James Inman, revised by James W. Inman, London, 1867, with a few small corrections.

Finally, it may be remarked that the derivatives as given in these tables have been computed for them. They are not derived from the differences of the values as printed, but from more extended values, or are computed independently, and the error of the derivatives as well as of the functions is less than one-half of a unit in the next succeeding decimal place.

These tables were prepared in connection with the geophysical work of the United States Geological Survey, and are published with the permission of the Director.

GEORGE F. BECKER.

C. E. VAN ORSTRAND.

WASHINGTON, D. C., *January, 1908.*

TABLE I

LOGARITHMS OF HYPERBOLIC FUNCTIONS

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0000 | — ∞ | — ∞ | 0.00000 | 0,0 | — ∞ | $\mp \infty$ | ∞ |
| .0001 | 6.00000 | 43429,4 | .00000 | | 6.00000 | 43429,4 | 4.00000 |
| .0002 | .30103 | 21714,7 | .00000 | | .30103 | 21714,7 | 3.69897 |
| .0003 | .47712 | 14476,5 | .00000 | | .47712 | 14476,5 | .52288 |
| .0004 | .60206 | 10857,4 | .00000 | | .60206 | 10857,4 | .39794 |
| 0.0005 | 6.69897 | 8685,9 | 0.00000 | 0,0 | 6.69897 | 8685,9 | 3.30103 |
| .0006 | .77815 | 7238,2 | .00000 | | .77815 | 7238,2 | .22185 |
| .0007 | .84510 | 6204,2 | .00000 | | .84510 | 6204,2 | .15490 |
| .0008 | .90309 | 5428,7 | .00000 | | .90309 | 5428,7 | .09691 |
| .0009 | .95424 | 4825,5 | .00000 | | .95424 | 4825,5 | .04576 |
| 0.0010 | 7.00000 | 4342,9 | 0.00000 | 0,0 | 7.00000 | 4342,9 | 3.00000 |
| .0011 | .04139 | 3948,1 | .00000 | | .04139 | 3948,1 | 2.95861 |
| .0012 | .07918 | 3619,1 | .00000 | | .07918 | 3619,1 | .92082 |
| .0013 | .11394 | 3340,7 | .00000 | | .11394 | 3340,7 | .88606 |
| .0014 | .14613 | 3102,1 | .00000 | | .14613 | 3102,1 | .85387 |
| 0.0015 | 7.17609 | 2895,3 | 0.00000 | 0,0 | 7.17609 | 2895,3 | 2.82391 |
| .0016 | .20412 | 2714,3 | .00000 | | .20412 | 2714,3 | .79588 |
| .0017 | .23045 | 2554,7 | .00000 | | .23045 | 2554,7 | .76955 |
| .0018 | .25527 | 2412,7 | .00000 | | .25527 | 2412,7 | .74473 |
| .0019 | .27875 | 2285,8 | .00000 | | .27875 | 2285,8 | .72125 |
| 0.0020 | 7.30103 | 2171,5 | 0.00000 | 0,0 | 7.30103 | 2171,5 | 2.69897 |
| .0021 | .32222 | 2068,1 | .00000 | | .32222 | 2068,1 | .67778 |
| .0022 | .34242 | 1974,1 | .00000 | | .34242 | 1974,1 | .65758 |
| .0023 | .36173 | 1888,2 | .00000 | | .36173 | 1888,2 | .63827 |
| .0024 | .38021 | 1809,6 | .00000 | | .38021 | 1809,6 | .61979 |
| 0.0025 | 7.39794 | 1737,2 | 0.00000 | 0,0 | 7.39794 | 1737,2 | 2.60206 |
| .0026 | .41497 | 1670,4 | .00000 | | .41497 | 1670,4 | .58593 |
| .0027 | .43136 | 1608,5 | .00000 | | .43136 | 1608,5 | .56864 |
| .0028 | .44716 | 1551,1 | .00000 | | .44716 | 1551,1 | .55284 |
| .0029 | .46240 | 1497,6 | .00000 | | .46240 | 1497,6 | .53760 |
| 0.0030 | 7.47712 | 1447,6 | 0.00000 | 0,0 | 7.47712 | 1447,6 | 2.52288 |
| .0031 | .49136 | 1400,9 | .00000 | | .49136 | 1400,9 | .50864 |
| .0032 | .50515 | 1357,2 | .00000 | | .50515 | 1357,2 | .49485 |
| .0033 | .51851 | 1316,0 | .00000 | | .51851 | 1316,0 | .48149 |
| .0034 | .53148 | 1277,3 | .00000 | | .53148 | 1277,3 | .46852 |
| 0.0035 | 7.54407 | 1240,8 | 0.00000 | 0,0 | 7.54407 | 1240,8 | 2.45593 |
| .0036 | .55630 | 1206,4 | .00000 | | .55630 | 1206,4 | .44370 |
| .0037 | .56820 | 1173,8 | .00000 | | .56820 | 1173,8 | .43180 |
| .0038 | .57978 | 1142,9 | .00000 | | .57978 | 1142,9 | .42022 |
| .0039 | .59107 | 1113,6 | .00000 | | .59107 | 1113,6 | .40894 |
| 0.0040 | 7.60206 | 1085,7 | 0.00000 | 0,0 | 7.60206 | 1085,7 | 2.39794 |
| .0041 | .61279 | 1059,2 | .00000 | | .61279 | 1059,2 | .38722 |
| .0042 | .62325 | 1034,0 | .00000 | | .62325 | 1034,0 | .37675 |
| .0043 | .63347 | 1010,0 | .00000 | | .63347 | 1010,0 | .36653 |
| .0044 | .64345 | 987,0 | .00000 | | .64345 | 987,0 | .35655 |
| 0.0045 | 7.65321 | 965,1 | 0.00000 | 0,0 | 7.65321 | 965,1 | 2.34679 |
| .0046 | .66276 | 944,1 | .00000 | | .66276 | 944,1 | .33725 |
| .0047 | .67210 | 924,0 | .00000 | | .67210 | 924,0 | .32791 |
| .0048 | .68124 | 904,8 | .00001 | | .68124 | 904,8 | .31876 |
| .0049 | .69020 | 886,3 | .00001 | | .69020 | 886,3 | .30981 |
| 0.0050 | 7.69897 | 868,6 | 0.00001 | 0,0 | 7.69897 | 868,6 | 2.30103 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0050 | 7.60897 | 868,6 | 0.00001 | 0,0 | 7.60897 | 868,6 | 2.30103 |
| .0051 | .70757 | 851,6 | .00001 | | .70757 | 851,5 | .29243 |
| .0052 | .71601 | 835,2 | .00001 | | .71600 | 835,2 | .28400 |
| .0053 | .72428 | 819,4 | .00001 | | .72427 | 819,4 | .27573 |
| .0054 | .73240 | 804,3 | .00001 | | .73239 | 804,2 | .26761 |
| 0.0055 | 7.74036 | 789,6 | 0.00001 | 0,0 | 7.74036 | 789,6 | 2.25964 |
| .0056 | .74819 | 775,5 | .00001 | | .74818 | 775,5 | .25182 |
| .0057 | .75588 | 761,9 | .00001 | | .75587 | 761,9 | .24413 |
| .0058 | .76343 | 748,8 | .00001 | | .76342 | 748,8 | .23658 |
| .0059 | .77085 | 736,1 | .00001 | | .77085 | 736,1 | .22915 |
| 0.0060 | 7.77815 | 723,8 | 0.00001 | 0,0 | 7.77815 | 723,8 | 2.22185 |
| .0061 | .78533 | 712,0 | .00001 | | .78532 | 711,9 | .21468 |
| .0062 | .79239 | 700,5 | .00001 | | .79239 | 700,5 | .20761 |
| .0063 | .79934 | 689,4 | .00001 | | .79933 | 689,3 | .20067 |
| .0064 | .80618 | 678,6 | .00001 | | .80617 | 678,6 | .19383 |
| 0.0065 | 7.81292 | 668,1 | 0.00001 | 0,0 | 7.81291 | 668,1 | 2.18709 |
| .0066 | .81955 | 658,0 | .00001 | | .81954 | 658,0 | .18046 |
| .0067 | .82608 | 648,2 | .00001 | | .82607 | 648,2 | .17393 |
| .0068 | .83251 | 638,7 | .00001 | | .83250 | 638,6 | .16750 |
| .0069 | .83885 | 629,4 | .00001 | | .83884 | 629,4 | .16116 |
| 0.0070 | 7.84510 | 620,4 | 0.00001 | 0,0 | 7.84509 | 620,4 | 2.15491 |
| .0071 | .85126 | 611,7 | .00001 | | .85125 | 611,7 | .14875 |
| .0072 | .85734 | 603,2 | .00001 | | .85732 | 603,2 | .14268 |
| .0073 | .86333 | 594,9 | .00001 | | .86332 | 594,9 | .13668 |
| .0074 | .86924 | 586,9 | .00001 | | .86922 | 586,9 | .13078 |
| 0.0075 | 7.87507 | 579,1 | 0.00001 | 0,0 | 7.87505 | 579,0 | 2.12495 |
| .0076 | .88082 | 571,4 | .00001 | | .88081 | 571,4 | .11919 |
| .0077 | .88649 | 564,0 | .00001 | | .88648 | 564,0 | .11352 |
| .0078 | .89210 | 556,8 | .00001 | | .89209 | 556,8 | .10791 |
| .0079 | .89763 | 549,7 | .00001 | | .89762 | 549,7 | .10238 |
| 0.0080 | 7.90309 | 542,9 | 0.00001 | 0,0 | 7.90308 | 542,8 | 2.09592 |
| .0081 | .90849 | 536,2 | .00001 | | .90848 | 536,1 | .09152 |
| .0082 | .91382 | 529,6 | .00001 | | .91380 | 529,6 | .08620 |
| .0083 | .91908 | 523,2 | .00001 | | .91907 | 523,2 | .08093 |
| .0084 | .92428 | 517,0 | .00002 | | .92427 | 517,0 | .07573 |
| 0.0085 | 7.92942 | 510,9 | 0.00002 | 0,0 | 7.92941 | 510,9 | 2.07059 |
| .0086 | .93450 | 505,0 | .00002 | | .93449 | 505,0 | .06551 |
| .0087 | .93952 | 499,2 | .00002 | | .93951 | 499,2 | .06049 |
| .0088 | .94449 | 493,5 | .00002 | | .94447 | 493,5 | .05553 |
| .0089 | .94940 | 488,0 | .00002 | | .94938 | 487,9 | .05062 |
| 0.0090 | 7.95425 | 482,6 | 0.00002 | 0,0 | 7.95423 | 482,5 | 2.04577 |
| .0091 | .95905 | 477,3 | .00002 | | .95903 | 477,2 | .04097 |
| .0092 | .96379 | 472,1 | .00002 | | .96378 | 472,0 | .03622 |
| .0093 | .96849 | 467,0 | .00002 | | .96847 | 467,0 | .03153 |
| .0094 | .97313 | 462,0 | .00002 | | .97312 | 462,0 | .02688 |
| 0.0095 | 7.97773 | 457,2 | 0.00002 | 0,0 | 7.97771 | 457,1 | 2.02229 |
| .0096 | .98228 | 452,4 | .00002 | | .98226 | 452,4 | .01774 |
| .0097 | .98678 | 447,7 | .00002 | | .98676 | 447,7 | .01324 |
| .0098 | .99123 | 443,2 | .00002 | | .99121 | 443,1 | .00879 |
| .0099 | .99564 | 438,7 | .00002 | | .99562 | 438,7 | .00438 |
| 0.0100 | 8.00001 | 434,3 | 0.00002 | 0,0 | 7.99999 | 434,3 | 2.00001 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0100 | 8.00001 | 434.3 | 0.00002 | 0,0 | 7.99999 | 434.3 | 2.00001 |
| .0101 | .00433 | 430,0 | .00002 | | 8.00431 | 430,0 | 1.99569 |
| .0102 | .00861 | 425,8 | .00002 | | .00859 | 425,7 | .99141 |
| .0103 | .01284 | 421,7 | .00002 | | .01282 | 421,6 | .98718 |
| .0104 | .01704 | 417,6 | .00002 | | .01702 | 417,6 | .98298 |
| 0.0105 | 8.02120 | 413,6 | 0.00002 | 0,0 | 8.02117 | 413,6 | 1.97883 |
| .0106 | .02531 | 409,7 | .00002 | | .02529 | 409,7 | .97471 |
| .0107 | .02939 | 405,9 | .00002 | | .02937 | 405,9 | .97063 |
| .0108 | .03343 | 402,1 | .00003 | | .03341 | 402,1 | .96659 |
| .0109 | .03744 | 398,5 | .00003 | | .03741 | 398,4 | .96259 |
| 0.0110 | 8.04140 | 394,8 | 0.00003 | 0,0 | 8.04138 | 394,8 | 1.95862 |
| .0111 | .04533 | 391,3 | .00003 | | .04531 | 391,2 | .95469 |
| .0112 | .04923 | 387,8 | .00003 | | .04920 | 387,7 | .95080 |
| .0113 | .05309 | 384,4 | .00003 | | .05306 | 384,3 | .94694 |
| .0114 | .05691 | 381,0 | .00003 | | .05689 | 380,9 | .94311 |
| 0.0115 | 8.06071 | 377,7 | 0.00003 | 0,0 | 8.06068 | 377,6 | 1.93932 |
| .0116 | .06447 | 374,4 | .00003 | 0,1 | .06444 | 374,4 | .93556 |
| .0117 | .06820 | 371,2 | .00003 | | .06817 | 371,2 | .93183 |
| .0118 | .07189 | 368,1 | .00003 | | .07186 | 368,0 | .92814 |
| .0119 | .07556 | 365,0 | .00003 | | .07553 | 364,9 | .92447 |
| 0.0120 | 8.07919 | 361,9 | 0.00003 | 0,1 | 8.07916 | 361,9 | 1.92084 |
| .0121 | .08280 | 358,9 | .00003 | | .08276 | 358,9 | .91724 |
| .0122 | .08637 | 356,0 | .00003 | | .08634 | 355,9 | .91366 |
| .0123 | .08992 | 353,1 | .00003 | | .08988 | 353,0 | .91012 |
| .0124 | .09343 | 350,3 | .00003 | | .09340 | 350,2 | .90660 |
| 0.0125 | 8.09692 | 347,5 | 0.00003 | 0,1 | 8.09689 | 347,4 | 1.90311 |
| .0126 | .10038 | 344,7 | .00003 | | .10035 | 344,6 | .89965 |
| .0127 | .10382 | 342,0 | .00004 | | .10378 | 341,9 | .89622 |
| .0128 | .10722 | 339,3 | .00004 | | .10719 | 339,3 | .89281 |
| .0129 | .11060 | 336,7 | .00004 | | .11057 | 336,6 | .88943 |
| 0.0130 | 8.11396 | 334,1 | 0.00004 | 0,1 | 8.11392 | 334,0 | 1.88608 |
| .0131 | .11728 | 331,5 | .00004 | | .11725 | 331,5 | .88275 |
| .0132 | .12059 | 329,0 | .00004 | | .12055 | 329,0 | .87945 |
| .0133 | .12386 | 326,6 | .00004 | | .12383 | 326,5 | .87617 |
| .0134 | .12712 | 324,1 | .00004 | | .12708 | 324,1 | .87292 |
| 0.0135 | 8.13035 | 321,7 | 0.00004 | 0,1 | 8.13031 | 321,7 | 1.86969 |
| .0136 | .13355 | 319,4 | .00004 | | .13351 | 319,3 | .86649 |
| .0137 | .13673 | 317,0 | .00004 | | .13669 | 317,0 | .86331 |
| .0138 | .13989 | 314,7 | .00004 | | .13985 | 314,7 | .86015 |
| .0139 | .14303 | 312,5 | .00004 | | .14299 | 312,4 | .85701 |
| 0.0140 | 8.14614 | 310,2 | 0.00004 | 0,1 | 8.14610 | 310,2 | 1.85390 |
| .0141 | .14923 | 308,0 | .00004 | | .14919 | 308,0 | .85081 |
| .0142 | .15230 | 305,9 | .00004 | | .15226 | 305,8 | .84774 |
| .0143 | .15535 | 303,7 | .00004 | | .15531 | 303,7 | .84469 |
| .0144 | .15838 | 301,6 | .00005 | | .15833 | 301,6 | .84167 |
| 0.0145 | 8.16138 | 299,5 | 0.00005 | 0,1 | 8.16134 | 299,5 | 1.83866 |
| .0146 | .16437 | 297,5 | .00005 | | .16432 | 297,4 | .83568 |
| .0147 | .16733 | 295,5 | .00005 | | .16729 | 295,4 | .83271 |
| .0148 | .17028 | 293,5 | .00005 | | .17023 | 293,4 | .82977 |
| .0149 | .17320 | 291,5 | .00005 | | .17315 | 291,4 | .82685 |
| 0.0150 | 8.17611 | 289,6 | 0.00005 | 0,1 | 8.17606 | 289,5 | 1.82394 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0150 | 8.17611 | 289.6 | 0.00005 | 0,1 | 8.17606 | 289.5 | 1.82394 |
| .0151 | .17899 | 287,6 | .00005 | | .17894 | 287,6 | .82106 |
| .0152 | .18186 | 285,7 | .00005 | | .18181 | 285,7 | .81819 |
| .0153 | .18471 | 283,9 | .00005 | | .18466 | 283,8 | .81534 |
| .0154 | .18754 | 282,0 | .00005 | | .18749 | 282,0 | .81251 |
| 0.0155 | 8.19035 | 280,2 | 0.00005 | 0,1 | 8.19030 | 280,1 | 1.80970 |
| .0156 | .19314 | 278,4 | .00005 | | .19309 | 278,3 | .80691 |
| .0157 | .19592 | 276,6 | .00005 | | .19586 | 276,6 | .80414 |
| .0158 | .19868 | 274,9 | .00005 | | .19862 | 274,8 | .80138 |
| .0159 | .20142 | 273,2 | .00005 | | .20136 | 273,1 | .79864 |
| 0.0160 | 8.20414 | 271,5 | 0.00006 | 0,1 | 8.20408 | 271,4 | 1.79592 |
| .0161 | .20684 | 269,8 | .00006 | | .20679 | 269,7 | .79321 |
| .0162 | .20953 | 268,1 | .00006 | | .20948 | 268,0 | .79052 |
| .0163 | .21221 | 266,5 | .00006 | | .21215 | 266,4 | .78785 |
| .0164 | .21486 | 264,8 | .00006 | | .21480 | 264,8 | .78520 |
| 0.0165 | 8.21750 | 263,2 | 0.00006 | 0,1 | 8.21744 | 263,2 | 1.78256 |
| .0166 | .22013 | 261,6 | .00006 | | .22007 | 261,6 | .77993 |
| .0167 | .22274 | 260,1 | .00006 | | .22268 | 260,0 | .77732 |
| .0168 | .22533 | 258,5 | .00006 | | .22527 | 258,5 | .77473 |
| .0169 | .22791 | 257,0 | .00006 | | .22785 | 256,9 | .77215 |
| 0.0170 | 8.23047 | 255,5 | 0.00006 | 0,1 | 8.23041 | 255,4 | 1.76959 |
| .0171 | .23302 | 254,0 | .00006 | | .23295 | 253,9 | .76705 |
| .0172 | .23555 | 252,5 | .00006 | | .23549 | 252,4 | .76451 |
| .0173 | .23807 | 251,1 | .00006 | | .23800 | 251,0 | .76200 |
| .0174 | .24057 | 249,6 | .00007 | | .24051 | 249,5 | .75949 |
| 0.0175 | 8.24306 | 248,2 | 0.00007 | 0,1 | 8.24299 | 248,1 | 1.75701 |
| .0176 | .24554 | 246,8 | .00007 | | .24547 | 246,7 | .75453 |
| .0177 | .24800 | 245,4 | .00007 | | .24793 | 245,3 | .75207 |
| .0178 | .25044 | 244,0 | .00007 | | .25037 | 243,9 | .74963 |
| .0179 | .25288 | 242,6 | .00007 | | .25281 | 242,6 | .74719 |
| 0.0180 | 8.25530 | 241,3 | 0.00007 | 0,1 | 8.25523 | 241,2 | 1.74477 |
| .0181 | .25770 | 240,0 | .00007 | | .25763 | 239,9 | .74237 |
| .0182 | .26010 | 238,6 | .00007 | | .26002 | 238,6 | .73998 |
| .0183 | .26248 | 237,3 | .00007 | | .26240 | 237,3 | .73760 |
| .0184 | .26484 | 236,1 | .00007 | | .26477 | 236,0 | .73523 |
| 0.0185 | 8.26720 | 234,8 | 0.00007 | 0,1 | 8.26712 | 234,7 | 1.73288 |
| .0186 | .26954 | 233,5 | .00008 | | .26946 | 233,4 | .73054 |
| .0187 | .27187 | 232,3 | .00008 | | .27179 | 232,2 | .72821 |
| .0188 | .27418 | 231,0 | .00008 | | .27411 | 231,0 | .72589 |
| .0189 | .27649 | 229,8 | .00008 | | .27641 | 229,7 | .72359 |
| 0.0190 | 8.27878 | 228,6 | 0.00008 | 0,1 | 8.27870 | 228,5 | 1.72130 |
| .0191 | .28106 | 227,4 | .00008 | | .28098 | 227,3 | .71902 |
| .0192 | .28333 | 226,2 | .00008 | | .28325 | 226,1 | .71675 |
| .0193 | .28558 | 225,1 | .00008 | | .28550 | 225,0 | .71450 |
| .0194 | .28783 | 223,9 | .00008 | | .28775 | 223,8 | .71225 |
| 0.0195 | 8.29006 | 222,7 | 0.00008 | 0,1 | 8.28998 | 222,7 | 1.71002 |
| .0196 | .29228 | 221,6 | .00008 | | .29220 | 221,5 | .70780 |
| .0197 | .29449 | 220,5 | .00008 | | .29441 | 220,4 | .70559 |
| .0198 | .29669 | 219,4 | .00009 | | .29661 | 219,3 | .70339 |
| .0199 | .29888 | 218,3 | .00009 | | .29880 | 218,2 | .70120 |
| 0.0200 | 8.30106 | 217,2 | 0.00009 | 0,1 | 8.30097 | 217,1 | 1.69903 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0200 | 8.30106 | 217,2 | 0.00009 | 0,I | 8.30097 | 217,1 | 1.69903 |
| .0201 | .30323 | 216,1 | .00009 | | .30314 | 216,0 | .69686 |
| .0202 | .30538 | 215,0 | .00009 | | .30529 | 214,9 | .69471 |
| .0203 | .30753 | 214,0 | .00009 | | .30744 | 213,9 | .69256 |
| .0204 | .30966 | 212,9 | .00009 | | .30957 | 212,8 | .69043 |
| 0.0205 | 8.31178 | 211,9 | 0.00009 | 0,I | 8.31169 | 211,8 | 1.68831 |
| .0206 | .31390 | 210,9 | .00009 | | .31381 | 210,8 | .68619 |
| .0207 | .31600 | 209,8 | .00009 | | .31591 | 209,7 | .68409 |
| .0208 | .31809 | 208,8 | .00009 | | .31800 | 208,7 | .68200 |
| .0209 | .32018 | 207,8 | .00009 | | .32008 | 207,7 | .67992 |
| 0.0210 | 8.32225 | 206,8 | 0.00010 | 0,I | 8.32216 | 206,7 | 1.67784 |
| .0211 | .32431 | 205,9 | .00010 | | .32422 | 205,8 | .67578 |
| .0212 | .32637 | 204,9 | .00010 | | .32627 | 204,8 | .67373 |
| .0213 | .32841 | 203,9 | .00010 | | .32831 | 203,8 | .67169 |
| .0214 | .33045 | 203,0 | .00010 | | .33035 | 202,9 | .66965 |
| 0.0215 | 8.33247 | 202,0 | 0.00010 | 0,I | 8.33237 | 201,9 | 1.66763 |
| .0216 | .33449 | 201,1 | .00010 | | .33439 | 201,0 | .66561 |
| .0217 | .33649 | 200,2 | .00010 | | .33639 | 200,1 | .66361 |
| .0218 | .33849 | 199,2 | .00010 | | .33839 | 199,2 | .66161 |
| .0219 | .34048 | 198,3 | .00010 | | .34037 | 198,2 | .65963 |
| 0.0220 | 8.34246 | 197,4 | 0.00011 | 0,I | 8.34235 | 197,3 | 1.65765 |
| .0221 | .34443 | 196,5 | .00011 | | .34432 | 196,4 | .65568 |
| .0222 | .34639 | 195,7 | .00011 | | .34628 | 195,6 | .65372 |
| .0223 | .34834 | 194,8 | .00011 | | .34823 | 194,7 | .65177 |
| .0224 | .35028 | 193,9 | .00011 | | .35018 | 193,8 | .64982 |
| 0.0225 | 8.35222 | 193,1 | 0.00011 | 0,I | 8.35211 | 193,0 | 1.64789 |
| .0226 | .35415 | 192,2 | .00011 | | .35403 | 192,1 | .64597 |
| .0227 | .35606 | 191,4 | .00011 | | .35595 | 191,3 | .64405 |
| .0228 | .35797 | 190,5 | .00011 | | .35786 | 190,4 | .64214 |
| .0229 | .35987 | 189,7 | .00011 | | .35976 | 189,6 | .64024 |
| 0.0230 | 8.36177 | 188,9 | 0.00011 | 0,I | 8.36165 | 188,8 | 1.63835 |
| .0231 | .36365 | 188,0 | .00012 | | .36353 | 187,9 | .63647 |
| .0232 | .36553 | 187,2 | .00012 | | .36541 | 187,1 | .63459 |
| .0233 | .36740 | 186,4 | .00012 | | .36728 | 186,3 | .63272 |
| .0234 | .36926 | 185,6 | .00012 | | .36914 | 185,5 | .63086 |
| 0.0235 | 8.37111 | 184,8 | 0.00012 | 0,I | 8.37099 | 184,7 | 1.62901 |
| .0236 | .37295 | 184,1 | .00012 | | .37283 | 184,0 | .62717 |
| .0237 | .37479 | 183,3 | .00012 | | .37467 | 183,2 | .62533 |
| .0238 | .37662 | 182,5 | .00012 | | .37649 | 182,4 | .62351 |
| .0239 | .37844 | 181,7 | .00012 | | .37832 | 181,6 | .62168 |
| 0.0240 | 8.38025 | 181,0 | 0.00013 | 0,I | 8.38013 | 180,9 | 1.61987 |
| .0241 | .38206 | 180,2 | .00013 | | .38193 | 180,1 | .61807 |
| .0242 | .38386 | 179,5 | .00013 | | .38373 | 179,4 | .61627 |
| .0243 | .38565 | 178,8 | .00013 | | .38552 | 178,7 | .61448 |
| .0244 | .38743 | 178,0 | .00013 | | .38730 | 177,9 | .61270 |
| 0.0245 | 8.38921 | 177,3 | 0.00013 | 0,I | 8.38908 | 177,2 | 1.61092 |
| .0246 | .39098 | 176,6 | .00013 | | .39085 | 176,5 | .60915 |
| .0247 | .39274 | 175,9 | .00013 | | .39261 | 175,8 | .60739 |
| .0248 | .39450 | 175,2 | .00013 | | .39436 | 175,0 | .60564 |
| .0249 | .39624 | 174,5 | .00013 | | .39611 | 174,3 | .60389 |
| 0.0250 | 8.39799 | 173,8 | 0.00014 | 0,I | 8.39785 | 173,6 | 1.60215 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|
| 0.0250 | 8.39799 | 173.8 | 0.00014 | 0,1 | 8.39785 | 173,6 | 1.60215 |
| .0251 | .39972 | 173,1 | .00014 | | .39958 | 173,0 | .60042 |
| .0252 | .40145 | 172,4 | .00014 | | .40131 | 172,3 | .59869 |
| .0253 | .40317 | 171,7 | .00014 | | .40303 | 171,6 | .59697 |
| .0254 | .40488 | 171,0 | .00014 | | .40474 | 170,9 | .59526 |
| 0.0255 | 8.40659 | 170,3 | 0.00014 | 0,1 | 8.40645 | 170,2 | 1.59355 |
| .0256 | .40829 | 169,7 | .00014 | | .40815 | 169,6 | .59185 |
| .0257 | .40998 | 169,0 | .00014 | | .40984 | 168,9 | .59016 |
| .0258 | .41167 | 168,4 | .00014 | | .41152 | 168,3 | .58848 |
| .0259 | .41335 | 167,7 | .00015 | | .41320 | 167,6 | .58680 |
| 0.0260 | 8.41502 | 167,1 | 0.00015 | 0,1 | 8.41488 | 167,0 | 1.58512 |
| .0261 | .41669 | 166,4 | .00015 | | .41654 | 166,3 | .58346 |
| .0262 | .41835 | 165,8 | .00015 | | .41820 | 165,7 | .58180 |
| .0263 | .42001 | 165,2 | .00015 | | .41986 | 165,1 | .58014 |
| .0264 | .42165 | 164,5 | .00015 | | .42150 | 164,4 | .57850 |
| 0.0265 | 8.42330 | 163,9 | 0.00015 | 0,1 | 8.42314 | 163,8 | 1.57686 |
| .0266 | .42493 | 163,3 | .00015 | | .42478 | 163,2 | .57522 |
| .0267 | .42656 | 162,7 | .00015 | | .42641 | 162,6 | .57359 |
| .0268 | .42819 | 162,1 | .00016 | | .42803 | 162,0 | .57197 |
| .0269 | .42980 | 161,5 | .00016 | | .42965 | 161,4 | .57035 |
| 0.0270 | 8.43142 | 160,9 | 0.00016 | 0,1 | 8.43126 | 160,8 | 1.56874 |
| .0271 | .43302 | 160,3 | .00016 | | .43286 | 160,2 | .56714 |
| .0272 | .43462 | 159,7 | .00016 | | .43446 | 159,6 | .56554 |
| .0273 | .43622 | 159,1 | .00016 | | .43605 | 159,0 | .56395 |
| .0274 | .43780 | 158,5 | .00016 | | .43764 | 158,4 | .56236 |
| 0.0275 | 8.43939 | 158,0 | 0.00016 | 0,1 | 8.43922 | 157,8 | 1.56078 |
| .0276 | .44096 | 157,4 | .00017 | | .44080 | 157,3 | .55920 |
| .0277 | .44254 | 156,8 | .00017 | | .44237 | 156,7 | .55763 |
| .0278 | .44410 | 156,3 | .00017 | | .44393 | 156,1 | .55607 |
| .0279 | .44566 | 155,7 | .00017 | | .44549 | 155,6 | .55451 |
| 0.0280 | 8.44721 | 155,1 | 0.00017 | 0,1 | 8.44704 | 155,0 | 1.55296 |
| .0281 | .44876 | 154,6 | .00017 | | .44859 | 154,5 | .55141 |
| .0282 | .45031 | 154,0 | .00017 | | .45013 | 153,9 | .54987 |
| .0283 | .45184 | 153,5 | .00017 | | .45167 | 153,4 | .54833 |
| .0284 | .45338 | 153,0 | .00018 | | .45320 | 152,8 | .54680 |
| 0.0285 | 8.45490 | 152,4 | 0.00018 | 0,1 | 8.45473 | 152,3 | 1.54527 |
| .0286 | .45643 | 151,9 | .00018 | | .45625 | 151,8 | .54375 |
| .0287 | .45794 | 151,4 | .00018 | | .45776 | 151,2 | .54224 |
| .0288 | .45945 | 150,8 | .00018 | | .45927 | 150,7 | .54073 |
| .0289 | .46096 | 150,3 | .00018 | | .46078 | 150,2 | .53922 |
| 0.0290 | 8.46246 | 149,8 | 0.00018 | 0,1 | 8.46228 | 149,7 | 1.53772 |
| .0291 | .46395 | 149,3 | .00018 | | .46377 | 149,2 | .53623 |
| .0292 | .46544 | 148,8 | .00019 | | .46526 | 148,6 | .53474 |
| .0293 | .46693 | 148,3 | .00019 | | .46674 | 148,1 | .53326 |
| .0294 | .46841 | 147,8 | .00019 | | .46822 | 147,6 | .53178 |
| 0.0295 | 8.46980 | 147,3 | 0.00019 | 0,1 | 8.46970 | 147,1 | 1.53030 |
| .0296 | .47136 | 146,8 | .00019 | | .47116 | 146,6 | .52884 |
| .0297 | .47282 | 146,3 | .00019 | | .47263 | 146,1 | .52737 |
| .0298 | .47428 | 145,8 | .00019 | | .47409 | 145,7 | .52591 |
| .0299 | .47574 | 145,3 | .00019 | | .47554 | 145,2 | .52446 |
| 0.0300 | 8.47719 | 144,8 | 0.00020 | 0,1 | 8.47699 | 144,7 | 1.52301 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log cose gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0300 | 8.47719 | 144.8 | 0.00020 | 0,1 | 8.47699 | 144.7 | 1.52301 |
| .0301 | .47863 | 144.3 | .00020 | | .47844 | 144.2 | .52156 |
| .0302 | .48007 | 143.8 | .00020 | | .47987 | 143.7 | .52013 |
| .0303 | .48151 | 143.4 | .00020 | | .48131 | 143.2 | .51869 |
| .0304 | .48294 | 142.9 | .00020 | | .48274 | 142.8 | .51726 |
| 0.0305 | 8.48437 | 142.4 | 0.00020 | 0,1 | 8.48417 | 142.3 | 1.51583 |
| .0306 | .48579 | 142.0 | .00020 | | .48559 | 141.8 | .51441 |
| .0307 | .48721 | 141.5 | .00020 | | .48700 | 141.4 | .51300 |
| .0308 | .48862 | 141.0 | .00021 | | .48841 | 140.9 | .51159 |
| .0309 | .49003 | 140.6 | .00021 | | .48982 | 140.5 | .51018 |
| 0.0310 | 8.49143 | 140.1 | 0.00021 | 0,1 | 8.49122 | 140.0 | 1.50878 |
| .0311 | .49283 | 139.7 | .00021 | | .49262 | 139.6 | .50738 |
| .0312 | .49423 | 139.2 | .00021 | | .49401 | 139.1 | .50599 |
| .0313 | .49562 | 138.8 | .00021 | | .49540 | 138.7 | .50460 |
| .0314 | .49700 | 138.4 | .00021 | | .49679 | 138.2 | .50321 |
| 0.0315 | 8.49838 | 137.9 | 0.00022 | 0,1 | 8.49817 | 137.8 | 1.50183 |
| .0316 | .49976 | 137.5 | .00022 | | .49954 | 137.3 | .50046 |
| .0317 | .50113 | 137.0 | .00022 | | .50091 | 136.9 | .49909 |
| .0318 | .50250 | 136.6 | .00022 | | .50228 | 136.5 | .49772 |
| .0319 | .50386 | 136.2 | .00022 | | .50364 | 136.1 | .49636 |
| 0.0320 | 8.50522 | 135.8 | 0.00022 | 0,1 | 8.50500 | 135.6 | 1.49500 |
| .0321 | .50658 | 135.3 | .00022 | | .50636 | 135.2 | .49364 |
| .0322 | .50793 | 134.9 | .00023 | | .50771 | 134.8 | .49229 |
| .0323 | .50928 | 134.5 | .00023 | | .50905 | 134.4 | .49095 |
| .0324 | .51062 | 134.1 | .00023 | | .51039 | 133.9 | .48961 |
| 0.0325 | 8.51196 | 133.7 | 0.00023 | 0,1 | 8.51173 | 133.5 | 1.48827 |
| .0326 | .51329 | 133.3 | .00023 | | .51306 | 133.1 | .48694 |
| .0327 | .51463 | 132.9 | .00023 | | .51439 | 132.7 | .48561 |
| .0328 | .51595 | 132.5 | .00023 | | .51572 | 132.3 | .48428 |
| .0329 | .51727 | 132.1 | .00023 | | .51704 | 131.9 | .48296 |
| 0.0330 | 8.51859 | 131.7 | 0.00024 | 0,1 | 8.51836 | 131.5 | 1.48164 |
| .0331 | .51991 | 131.3 | .00024 | | .51967 | 131.1 | .48033 |
| .0332 | .52122 | 130.9 | .00024 | | .52098 | 130.7 | .47902 |
| .0333 | .52252 | 130.5 | .00024 | | .52228 | 130.3 | .47772 |
| .0334 | .52383 | 130.1 | .00024 | | .52358 | 129.9 | .47642 |
| 0.0335 | 8.52513 | 129.7 | 0.00024 | 0,1 | 8.52488 | 129.5 | 1.47512 |
| .0336 | .52642 | 129.3 | .00025 | | .52618 | 129.2 | .47382 |
| .0337 | .52771 | 128.9 | .00025 | | .52747 | 128.8 | .47253 |
| .0338 | .52900 | 128.5 | .00025 | | .52875 | 128.4 | .47125 |
| .0339 | .53028 | 128.2 | .00025 | | .53003 | 128.0 | .46997 |
| 0.0340 | 8.53156 | 127.8 | 0.00025 | 0,1 | 8.53131 | 127.6 | 1.46869 |
| .0341 | .53284 | 127.4 | .00025 | | .53259 | 127.3 | .46741 |
| .0342 | .53411 | 127.0 | .00025 | | .53386 | 126.9 | .46614 |
| .0343 | .53538 | 126.7 | .00026 | | .53512 | 126.5 | .46488 |
| .0344 | .53664 | 126.3 | .00026 | | .53639 | 126.1 | .46361 |
| 0.0345 | 8.53791 | 125.9 | 0.00026 | 0,1 | 8.53765 | 125.8 | 1.46235 |
| .0346 | .53916 | 125.6 | .00026 | 0,2 | .53890 | 125.4 | .46110 |
| .0347 | .54042 | 125.2 | .00026 | | .54016 | 125.1 | .45984 |
| .0348 | .54167 | 124.8 | .00026 | | .54140 | 124.7 | .45860 |
| .0349 | .54291 | 124.5 | .00026 | | .54265 | 124.3 | .45735 |
| 0.0350 | 8.54416 | 124.1 | 0.00027 | 0,2 | 8.54389 | 124.0 | 1.45611 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0350 | 8.54416 | 124,1 | 0.00027 | 0,2 | 8.54389 | 124,0 | 1.45611 |
| .0351 | .54540 | 123,8 | .00027 | | .54513 | 123,6 | .45487 |
| .0352 | .54663 | 123,4 | .00027 | | .54636 | 123,3 | .45364 |
| .0353 | .54786 | 123,1 | .00027 | | .54759 | 122,9 | .45241 |
| .0354 | .54909 | 122,7 | .00027 | | .54882 | 122,6 | .45118 |
| 0.0355 | 8.55032 | 122,4 | 0.00027 | 0,2 | 8.55005 | 122,2 | 1.44995 |
| .0356 | .55154 | 122,0 | .00028 | | .55127 | 121,9 | .44873 |
| .0357 | .55276 | 121,7 | .00028 | | .55248 | 121,5 | .44752 |
| .0358 | .55398 | 121,4 | .00028 | | .55370 | 121,2 | .44630 |
| .0359 | .55519 | 121,0 | .00028 | | .55491 | 120,9 | .44509 |
| 0.0360 | 8.55640 | 120,7 | 0.00028 | 0,2 | 8.55611 | 120,5 | 1.44389 |
| .0361 | .55760 | 120,4 | .00028 | | .55732 | 120,2 | .44268 |
| .0362 | .55880 | 120,0 | .00028 | | .55852 | 119,9 | .44148 |
| .0363 | .56000 | 119,7 | .00029 | | .55972 | 119,5 | .44028 |
| .0364 | .56120 | 119,4 | .00029 | | .56091 | 119,2 | .43909 |
| 0.0365 | 8.56239 | 119,0 | 0.00029 | 0,2 | 8.56210 | 118,9 | 1.43790 |
| .0366 | .56358 | 118,7 | .00029 | | .56329 | 118,6 | .43671 |
| .0367 | .56476 | 118,4 | .00029 | | .56447 | 118,2 | .43553 |
| .0368 | .56595 | 118,1 | .00029 | | .56565 | 117,9 | .43435 |
| .0369 | .56712 | 117,7 | .00030 | | .56683 | 117,6 | .43317 |
| 0.0370 | 8.56830 | 117,4 | 0.00030 | 0,2 | 8.56800 | 117,3 | 1.43200 |
| .0371 | .56947 | 117,1 | .00030 | | .56917 | 117,0 | .43083 |
| .0372 | .57064 | 116,8 | .00030 | | .57034 | 116,6 | .42966 |
| .0373 | .57181 | 116,5 | .00030 | | .57151 | 116,3 | .42849 |
| .0374 | .57297 | 116,2 | .00030 | | .57267 | 116,0 | .42733 |
| 0.0375 | 8.57413 | 115,9 | 0.00031 | 0,2 | 8.57383 | 115,7 | 1.42617 |
| .0376 | .57529 | 115,6 | .00031 | | .57498 | 115,4 | .42502 |
| .0377 | .57644 | 115,3 | .00031 | | .57614 | 115,1 | .42386 |
| .0378 | .57760 | 114,9 | .00031 | | .57729 | 114,8 | .42271 |
| .0379 | .57874 | 114,6 | .00031 | | .57843 | 114,5 | .42157 |
| 0.0380 | 8.57989 | 114,3 | 0.00031 | 0,2 | 8.57957 | 114,2 | 1.42043 |
| .0381 | .58103 | 114,0 | .00032 | | .58071 | 113,9 | .41929 |
| .0382 | .58217 | 113,7 | .00032 | | .58185 | 113,6 | .41815 |
| .0383 | .58330 | 113,4 | .00032 | | .58299 | 113,3 | .41701 |
| .0384 | .58444 | 113,2 | .00032 | | .58412 | 113,0 | .41588 |
| 0.0385 | 8.58557 | 112,9 | 0.00032 | 0,2 | 8.58525 | 112,7 | 1.41475 |
| .0386 | .58670 | 112,6 | .00032 | | .58637 | 112,4 | .41363 |
| .0387 | .58782 | 112,3 | .00033 | | .58749 | 112,1 | .41251 |
| .0388 | .58894 | 112,0 | .00033 | | .58861 | 111,8 | .41139 |
| .0389 | .59006 | 111,7 | .00033 | | .58973 | 111,5 | .41027 |
| 0.0390 | 8.59117 | 111,4 | 0.00033 | 0,2 | 8.59084 | 111,2 | 1.40916 |
| .0391 | .59229 | 111,1 | .00033 | | .59196 | 111,0 | .40804 |
| .0392 | .59340 | 110,8 | .00033 | | .59306 | 110,7 | .40694 |
| .0393 | .59450 | 110,6 | .00034 | | .59417 | 110,4 | .40583 |
| .0394 | .59561 | 110,3 | .00034 | | .59527 | 110,1 | .40473 |
| 0.0395 | 8.59671 | 110,0 | 0.00034 | 0,2 | 8.59637 | 109,8 | 1.40363 |
| .0396 | .59781 | 109,7 | .00034 | | .59747 | 109,6 | .40253 |
| .0397 | .59890 | 109,5 | .00034 | | .59856 | 109,3 | .40144 |
| .0398 | .60000 | 109,2 | .00034 | | .59965 | 109,0 | .40035 |
| .0399 | .60109 | 108,9 | .00035 | | .60074 | 108,7 | .39926 |
| 0.0400 | 8.60218 | 108,6 | 0.00035 | 0,2 | 8.60183 | 108,5 | 1.39817 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0400 | 8.60218 | 108,6 | 0.00035 | 0,2 | 8.60183 | 108,5 | 1.39817 |
| .0401 | .60326 | 108,4 | .00035 | | .60291 | 108,2 | .39709 |
| .0402 | .60434 | 108,1 | .00035 | | .60399 | 107,9 | .39601 |
| .0403 | .60542 | 107,8 | .00035 | | .60507 | 107,6 | .39493 |
| .0404 | .60650 | 107,6 | .00035 | | .60615 | 107,4 | .39385 |
| 0.0405 | 8.60757 | 107,3 | 0.00036 | 0,2 | 8.60722 | 107,1 | 1.39278 |
| .0406 | .60865 | 107,0 | .00036 | | .60829 | 106,9 | .39171 |
| .0407 | .60971 | 106,8 | .00036 | | .60935 | 106,6 | .39065 |
| .0408 | .61078 | 106,5 | .00036 | | .61042 | 106,3 | .38958 |
| .0409 | .61184 | 106,2 | .00036 | | .61148 | 106,1 | .38852 |
| 0.0410 | 8.61291 | 106,0 | 0.00036 | 0,2 | 8.61254 | 105,8 | 1.38746 |
| .0411 | .61396 | 105,7 | .00037 | | .61360 | 105,5 | .38640 |
| .0412 | .61502 | 105,5 | .00037 | | .61465 | 105,3 | .38535 |
| .0413 | .61607 | 105,2 | .00037 | | .61570 | 105,0 | .38430 |
| .0414 | .61712 | 105,0 | .00037 | | .61675 | 104,8 | .38325 |
| 0.0415 | 8.61817 | 104,7 | 0.00037 | 0,2 | 8.61780 | 104,5 | 1.38220 |
| .0416 | .61922 | 104,5 | .00038 | | .61884 | 104,3 | .38116 |
| .0417 | .62026 | 104,2 | .00038 | | .61988 | 104,0 | .38012 |
| .0418 | .62130 | 104,0 | .00038 | | .62092 | 103,8 | .37908 |
| .0419 | .62234 | 103,7 | .00038 | | .62196 | 103,5 | .37804 |
| 0.0420 | 8.62338 | 103,5 | 0.00038 | 0,2 | 8.62299 | 103,3 | 1.37701 |
| .0421 | .62441 | 103,2 | .00038 | | .62403 | 103,0 | .37597 |
| .0422 | .62544 | 103,0 | .00039 | | .62505 | 102,8 | .37495 |
| .0423 | .62647 | 102,7 | .00039 | | .62608 | 102,5 | .37392 |
| .0424 | .62750 | 102,5 | .00039 | | .62711 | 102,3 | .37289 |
| 0.0425 | 8.62852 | 102,2 | 0.00039 | 0,2 | 8.62813 | 102,1 | 1.37187 |
| .0426 | .62954 | 102,0 | .00039 | | .62915 | 101,8 | .37085 |
| .0427 | .63056 | 101,8 | .00040 | | .63016 | 101,6 | .36984 |
| .0428 | .63158 | 101,5 | .00040 | | .63118 | 101,3 | .36882 |
| .0429 | .63259 | 101,3 | .00040 | | .63219 | 101,1 | .36781 |
| 0.0430 | 8.63360 | 101,1 | 0.00040 | 0,2 | 8.63320 | 100,9 | 1.36680 |
| .0431 | .63461 | 100,8 | .00040 | | .63421 | 100,6 | .36579 |
| .0432 | .63562 | 100,6 | .00041 | | .63521 | 100,4 | .36479 |
| .0433 | .63662 | 100,4 | .00041 | | .63622 | 100,2 | .36378 |
| .0434 | .63763 | 100,1 | .00041 | | .63722 | 99,9 | .36278 |
| 0.0435 | 8.63863 | 99,9 | 0.00041 | 0,2 | 8.63822 | 99,7 | 1.36178 |
| .0436 | .63962 | 99,7 | .00041 | | .63921 | 99,5 | .36079 |
| .0437 | .64062 | 99,4 | .00041 | | .64020 | 99,3 | .35980 |
| .0438 | .64161 | 99,2 | .00042 | | .64120 | 99,0 | .35880 |
| .0439 | .64260 | 99,0 | .00042 | | .64219 | 98,8 | .35781 |
| 0.0440 | 8.64359 | 98,8 | 0.00042 | 0,2 | 8.64317 | 98,6 | 1.35683 |
| .0441 | .64458 | 98,5 | .00042 | | .64416 | 98,4 | .35584 |
| .0442 | .64556 | 98,3 | .00042 | | .64514 | 98,1 | .35486 |
| .0443 | .64655 | 98,1 | .00043 | | .64612 | 97,9 | .35388 |
| .0444 | .64753 | 97,9 | .00043 | | .64710 | 97,7 | .35290 |
| 0.0445 | 8.64850 | 97,7 | 0.00043 | 0,2 | 8.64807 | 97,5 | 1.35193 |
| .0446 | .64948 | 97,4 | .00043 | | .64905 | 97,2 | .35095 |
| .0447 | .65045 | 97,2 | .00043 | | .65002 | 97,0 | .34998 |
| .0448 | .65142 | 97,0 | .00044 | | .65099 | 96,8 | .34901 |
| .0449 | .65239 | 96,8 | .00044 | | .65195 | 96,6 | .34805 |
| 0.0450 | 8.65336 | 96,6 | 0.00044 | 0,2 | 8.65292 | 96,4 | 1.34708 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0450 | 8.65336 | 96,6 | 0.00044 | 0,2 | 8.65292 | 96,4 | 1.34708 |
| .0451 | .65432 | 96,4 | .00044 | | .65388 | 96,2 | .34612 |
| .0452 | .65529 | 96,1 | .00044 | | .65484 | 96,0 | .34516 |
| .0453 | .65625 | 95,9 | .00045 | | .65580 | 95,7 | .34420 |
| .0454 | .65721 | 95,7 | .00045 | | .65676 | 95,5 | .34324 |
| 0.0455 | 8.65816 | 95,5 | 0.00045 | 0,2 | 8.65771 | 95,3 | 1.34229 |
| .0456 | .65912 | 95,3 | .00045 | | .65866 | 95,1 | .34134 |
| .0457 | .66007 | 95,1 | .00045 | | .65961 | 94,9 | .34039 |
| .0458 | .66102 | 94,9 | .00046 | | .66056 | 94,7 | .33944 |
| .0459 | .66197 | 94,7 | .00046 | | .66151 | 94,5 | .33849 |
| 0.0460 | 8.66291 | 94,5 | 0.00046 | 0,2 | 8.66245 | 94,3 | 1.33755 |
| .0461 | .66385 | 94,3 | .00046 | | .66339 | 94,1 | .33661 |
| .0462 | .66480 | 94,1 | .00046 | | .66433 | 93,9 | .33567 |
| .0463 | .66574 | 93,9 | .00047 | | .66527 | 93,7 | .33473 |
| .0464 | .66667 | 93,7 | .00047 | | .66621 | 93,5 | .33379 |
| 0.0465 | 8.66761 | 93,5 | 0.00047 | 0,2 | 8.66714 | 93,3 | 1.33286 |
| .0466 | .66854 | 93,3 | .00047 | | .66807 | 93,1 | .33193 |
| .0467 | .66947 | 93,1 | .00047 | | .66900 | 92,9 | .33100 |
| .0468 | .67040 | 92,9 | .00048 | | .66993 | 92,7 | .33007 |
| .0469 | .67133 | 92,7 | .00048 | | .67085 | 92,5 | .32915 |
| 0.0470 | 8.67226 | 92,5 | 0.00048 | 0,2 | 8.67178 | 92,3 | 1.32822 |
| .0471 | .67318 | 92,3 | .00048 | | .67270 | 92,1 | .32730 |
| .0472 | .67410 | 92,1 | .00048 | | .67362 | 91,9 | .32638 |
| .0473 | .67502 | 91,9 | .00049 | | .67454 | 91,7 | .32546 |
| .0474 | .67594 | 91,7 | .00049 | | .67545 | 91,5 | .32455 |
| 0.0475 | 8.67686 | 91,5 | 0.00049 | 0,2 | 8.67637 | 91,3 | 1.32363 |
| .0476 | .67777 | 91,3 | .00049 | | .67728 | 91,1 | .32272 |
| .0477 | .67868 | 91,1 | .00049 | | .67819 | 90,9 | .32181 |
| .0478 | .67959 | 90,9 | .00050 | | .67910 | 90,7 | .32090 |
| .0479 | .68050 | 90,7 | .00050 | | .68000 | 90,5 | .32000 |
| 0.0480 | 8.68141 | 90,5 | 0.00050 | 0,2 | 8.68091 | 90,3 | 1.31909 |
| .0481 | .68231 | 90,4 | .00050 | | .68181 | 90,2 | .31819 |
| .0482 | .68322 | 90,2 | .00050 | | .68271 | 90,0 | .31729 |
| .0483 | .68412 | 90,0 | .00051 | | .68361 | 89,8 | .31639 |
| .0484 | .68501 | 89,8 | .00051 | | .68451 | 89,6 | .31549 |
| 0.0485 | 8.68591 | 89,6 | 0.00051 | 0,2 | 8.68540 | 89,4 | 1.31460 |
| .0486 | .68681 | 89,4 | .00051 | | .68629 | 89,2 | .31371 |
| .0487 | .68770 | 89,2 | .00051 | | .68719 | 89,0 | .31281 |
| .0488 | .68859 | 89,1 | .00052 | | .68808 | 88,9 | .31192 |
| .0489 | .68948 | 88,9 | .00052 | | .68896 | 88,7 | .31104 |
| 0.0490 | 8.69037 | 88,7 | 0.00052 | 0,2 | 8.68985 | 88,5 | 1.31015 |
| .0491 | .69126 | 88,5 | .00052 | | .69073 | 88,3 | .30927 |
| .0492 | .69214 | 88,3 | .00053 | | .69161 | 88,1 | .30839 |
| .0493 | .69302 | 88,2 | .00053 | | .69250 | 87,9 | .30750 |
| .0494 | .69390 | 88,0 | .00053 | | .69337 | 87,8 | .30663 |
| 0.0495 | 8.69478 | 87,8 | 0.00053 | 0,2 | 8.69425 | 87,6 | 1.30575 |
| .0496 | .69566 | 87,6 | .00053 | | .69513 | 87,4 | .30487 |
| .0497 | .69654 | 87,5 | .00054 | | .69600 | 87,2 | .30400 |
| .0498 | .69741 | 87,3 | .00054 | | .69687 | 87,1 | .30313 |
| .0499 | .69828 | 87,1 | .00054 | | .69774 | 86,9 | .30226 |
| 0.0500 | 8.69915 | 86,9 | 0.00054 | 0,2 | 8.69861 | 86,7 | 1.30139 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0500 | 8.69915 | 86,9 | 0.00054 | 0,2 | 8.69861 | 86,7 | 1.30139 |
| .0501 | .70002 | 86,8 | .00054 | | .69947 | 86,5 | .30053 |
| .0502 | .70089 | 86,6 | .00055 | | .70034 | 86,4 | .29966 |
| .0503 | .70175 | 86,4 | .00055 | | .70120 | 86,2 | .29880 |
| .0504 | .70261 | 86,2 | .00055 | | .70206 | 86,0 | .29794 |
| 0.0505 | 8.70348 | 86,1 | 0.00055 | 0,2 | 8.70292 | 85,9 | 1.29708 |
| .0506 | .70434 | 85,9 | .00056 | | .70378 | 85,7 | .29622 |
| .0507 | .70519 | 85,7 | .00056 | | .70464 | 85,5 | .29536 |
| .0508 | .70605 | 85,6 | .00056 | | .70549 | 85,3 | .29451 |
| .0509 | .70691 | 85,4 | .00056 | | .70634 | 85,2 | .29366 |
| 0.0510 | 8.70776 | 85,2 | 0.00056 | 0,2 | 8.70719 | 85,0 | 1.29281 |
| .0511 | .70861 | 85,1 | .00057 | | .70804 | 84,8 | .29196 |
| .0512 | .70946 | 84,9 | .00057 | | .70889 | 84,7 | .29111 |
| .0513 | .71031 | 84,7 | .00057 | | .70974 | 84,5 | .29026 |
| .0514 | .71115 | 84,6 | .00057 | | .71058 | 84,3 | .28942 |
| 0.0515 | 8.71200 | 84,4 | 0.00058 | 0,2 | 8.71142 | 84,2 | 1.28858 |
| .0516 | .71284 | 84,2 | .00058 | | .71226 | 84,0 | .28774 |
| .0517 | .71368 | 84,1 | .00058 | | .71310 | 83,9 | .28690 |
| .0518 | .71452 | 83,9 | .00058 | | .71394 | 83,7 | .28606 |
| .0519 | .71536 | 83,8 | .00058 | | .71478 | 83,5 | .28522 |
| 0.0520 | 8.71620 | 83,6 | 0.00059 | 0,2 | 8.71561 | 83,4 | 1.28439 |
| .0521 | .71703 | 83,4 | .00059 | | .71644 | 83,2 | .28356 |
| .0522 | .71787 | 83,3 | .00059 | | .71728 | 83,0 | .28272 |
| .0523 | .71870 | 83,1 | .00059 | | .71811 | 82,9 | .28189 |
| .0524 | .71953 | 83,0 | .00060 | | .71893 | 82,7 | .28107 |
| 0.0525 | 8.72036 | 82,8 | 0.00060 | 0,2 | 8.71976 | 82,6 | 1.28024 |
| .0526 | .72119 | 82,6 | .00060 | | .72059 | 82,4 | .27941 |
| .0527 | .72201 | 82,5 | .00060 | | .72141 | 82,3 | .27859 |
| .0528 | .72284 | 82,3 | .00061 | | .72223 | 82,1 | .27777 |
| .0529 | .72366 | 82,2 | .00061 | | .72305 | 81,9 | .27695 |
| 0.0530 | 8.72448 | 82,0 | 0.00061 | 0,2 | 8.72387 | 81,8 | 1.27613 |
| .0531 | .72530 | 81,9 | .00061 | | .72469 | 81,6 | .27531 |
| .0532 | .72612 | 81,7 | .00061 | | .72550 | 81,5 | .27450 |
| .0533 | .72693 | 81,6 | .00062 | | .72632 | 81,3 | .27368 |
| .0534 | .72775 | 81,4 | .00062 | | .72713 | 81,2 | .27287 |
| 0.0535 | 8.72856 | 81,3 | 0.00062 | 0,2 | 8.72794 | 81,0 | 1.27206 |
| .0536 | .72937 | 81,1 | .00062 | | .72875 | 80,9 | .27125 |
| .0537 | .73018 | 81,0 | .00063 | | .72956 | 80,7 | .27044 |
| .0538 | .73099 | 80,8 | .00063 | | .73036 | 80,6 | .26964 |
| .0539 | .73180 | 80,7 | .00063 | | .73117 | 80,4 | .26883 |
| 0.0540 | 8.73260 | 80,5 | 0.00063 | 0,2 | 8.73197 | 80,3 | 1.26803 |
| .0541 | .73341 | 80,4 | .00064 | | .73277 | 80,1 | .26723 |
| .0542 | .73421 | 80,2 | .00064 | | .73357 | 80,0 | .26643 |
| .0543 | .73501 | 80,1 | .00064 | | .73436 | 79,8 | .26564 |
| .0544 | .73581 | 79,9 | .00064 | | .73517 | 79,7 | .26483 |
| 0.0545 | 8.73661 | 79,8 | 0.00064 | 0,2 | 8.73597 | 79,5 | 1.26403 |
| .0546 | .73741 | 79,6 | .00065 | | .73676 | 79,4 | .26324 |
| .0547 | .73820 | 79,5 | .00065 | | .73755 | 79,2 | .26245 |
| .0548 | .73900 | 79,3 | .00065 | | .73835 | 79,1 | .26165 |
| .0549 | .73979 | 79,2 | .00065 | | .73914 | 78,9 | .26086 |
| 0.0550 | 8.74058 | 79,0 | 0.00066 | 0,2 | 8.73993 | 78,8 | 1.26007 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0550 | 8.74058 | 79.0 | 0.00066 | 0,2 | 8.73993 | 78,8 | 1.26007 |
| .0551 | .74137 | 78,9 | .00066 | | .74071 | 78,7 | .25929 |
| .0552 | .74216 | 78,8 | .00066 | | .74150 | 78,5 | .25850 |
| .0553 | .74295 | 78,6 | .00066 | | .74228 | 78,4 | .25772 |
| .0554 | .74373 | 78,5 | .00067 | | .74307 | 78,2 | .25693 |
| 0.0555 | 8.74452 | 78,3 | 0.00067 | 0,2 | 8.74385 | 78,1 | 1.25615 |
| .0556 | .74530 | 78,2 | .00067 | | .74463 | 77,9 | .25537 |
| .0557 | .74608 | 78,0 | .00067 | | .74541 | 77,8 | .25459 |
| .0558 | .74686 | 77,9 | .00068 | | .74618 | 77,7 | .25382 |
| .0559 | .74764 | 77,8 | .00068 | | .74696 | 77,5 | .25304 |
| 0.0560 | 8.74841 | 77,6 | 0.00068 | 0,2 | 8.74773 | 77,4 | 1.25227 |
| .0561 | .74919 | 77,5 | .00068 | | .74851 | 77,3 | .25149 |
| .0562 | .74996 | 77,4 | .00069 | | .74928 | 77,1 | .25072 |
| .0563 | .75074 | 77,2 | .00069 | | .75005 | 77,0 | .24995 |
| .0564 | .75151 | 77,1 | .00069 | | .75082 | 76,8 | .24918 |
| 0.0565 | 8.75228 | 76,9 | 0.00069 | 0,2 | 8.75159 | 76,7 | 1.24841 |
| .0566 | .75305 | 76,8 | .00070 | | .75235 | 76,6 | .24765 |
| .0567 | .75382 | 76,7 | .00070 | | .75312 | 76,4 | .24688 |
| .0568 | .75458 | 76,5 | .00070 | | .75388 | 76,3 | .24612 |
| .0569 | .75535 | 76,4 | .00070 | | .75464 | 76,2 | .24536 |
| 0.0570 | 8.75611 | 76,3 | 0.00071 | 0,2 | 8.75540 | 76,0 | 1.24460 |
| .0571 | .75687 | 76,1 | .00071 | | .75616 | 75,9 | .24384 |
| .0572 | .75763 | 76,0 | .00071 | | .75692 | 75,8 | .24308 |
| .0573 | .75839 | 75,9 | .00071 | | .75768 | 75,6 | .24232 |
| .0574 | .75915 | 75,7 | .00072 | | .75844 | 75,5 | .24156 |
| 0.0575 | 8.75991 | 75,6 | 0.00072 | 0,2 | 8.75919 | 75,4 | 1.24081 |
| .0576 | .76066 | 75,5 | .00072 | 0,2 | .75994 | 75,2 | .24006 |
| .0577 | .76142 | 75,4 | .00072 | 0,3 | .76069 | 75,1 | .23931 |
| .0578 | .76217 | 75,2 | .00073 | | .76144 | 75,0 | .23856 |
| .0579 | .76292 | 75,1 | .00073 | | .76219 | 74,8 | .23781 |
| 0.0580 | 8.76367 | 75,0 | 0.00073 | 0,3 | 8.76294 | 74,7 | 1.23706 |
| .0581 | .76442 | 74,8 | .00073 | | .76369 | 74,6 | .23631 |
| .0582 | .76517 | 74,7 | .00074 | | .76443 | 74,5 | .23557 |
| .0583 | .76591 | 74,6 | .00074 | | .76518 | 74,3 | .23482 |
| .0584 | .76666 | 74,5 | .00074 | | .76592 | 74,2 | .23408 |
| 0.0585 | 8.76740 | 74,3 | 0.00074 | 0,3 | 8.76666 | 74,1 | 1.23334 |
| .0586 | .76815 | 74,2 | .00075 | | .76740 | 73,9 | .23260 |
| .0587 | .76889 | 74,1 | .00075 | | .76814 | 73,8 | .23186 |
| .0588 | .76963 | 73,9 | .00075 | | .76888 | 73,7 | .23112 |
| .0589 | .77037 | 73,8 | .00075 | | .76961 | 73,6 | .23039 |
| 0.0590 | 8.77110 | 73,7 | 0.00076 | 0,3 | 8.77035 | 73,4 | 1.22965 |
| .0591 | .77184 | 73,6 | .00076 | | .77108 | 73,3 | .22892 |
| .0592 | .77258 | 73,4 | .00076 | | .77181 | 73,2 | .22819 |
| .0593 | .77331 | 73,3 | .00076 | | .77255 | 73,1 | .22745 |
| .0594 | .77404 | 73,2 | .00077 | | .77328 | 72,9 | .22672 |
| 0.0595 | 8.77477 | 73,1 | 0.00077 | 0,3 | 8.77400 | 72,8 | 1.22600 |
| .0596 | .77550 | 73,0 | .00077 | | .77473 | 72,7 | .22527 |
| .0597 | .77623 | 72,8 | .00077 | | .77546 | 72,6 | .22454 |
| .0598 | .77696 | 72,7 | .00078 | | .77618 | 72,5 | .22382 |
| .0599 | .77769 | 72,6 | .00078 | | .77691 | 72,3 | .22309 |
| 0.0600 | 8.77841 | 72,5 | 0.00078 | 0,3 | 8.77763 | 72,2 | 1.22237 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0600 | 8.77841 | 72,5 | 0.00078 | 0,3 | 8.77763 | 72,2 | 1.22237 |
| .0601 | .77914 | 72,3 | .00078 | | .77835 | 72,1 | .22165 |
| .0602 | .77986 | 72,2 | .00079 | | .77907 | 72,0 | .22093 |
| .0603 | .78058 | 72,1 | .00079 | | .77979 | 71,8 | .22021 |
| .0604 | .78130 | 72,0 | .00079 | | .78051 | 71,7 | .21949 |
| 0.0605 | 8.78202 | 71,9 | 0.00079 | 0,3 | 8.78123 | 71,6 | 1.21877 |
| .0606 | .78274 | 71,8 | .00080 | | .78194 | 71,5 | .21806 |
| .0607 | .78346 | 71,6 | .00080 | | .78266 | 71,4 | .21734 |
| .0608 | .78417 | 71,5 | .00080 | | .78337 | 71,3 | .21663 |
| .0609 | .78489 | 71,4 | .00080 | | .78408 | 71,1 | .21592 |
| 0.0610 | 8.78560 | 71,3 | 0.00081 | 0,3 | 8.78479 | 71,0 | 1.21521 |
| .0611 | .78631 | 71,2 | .00081 | | .78550 | 70,9 | .21450 |
| .0612 | .78702 | 71,1 | .00081 | | .78621 | 70,8 | .21379 |
| .0613 | .78773 | 70,9 | .00082 | | .78692 | 70,7 | .21308 |
| .0614 | .78844 | 70,8 | .00082 | | .78762 | 70,6 | .21238 |
| 0.0615 | 8.78915 | 70,7 | 0.00082 | 0,3 | 8.78833 | 70,4 | 1.21167 |
| .0616 | .78986 | 70,6 | .00082 | | .78903 | 70,3 | .21097 |
| .0617 | .79056 | 70,5 | .00083 | | .78973 | 70,2 | .21027 |
| .0618 | .79127 | 70,4 | .00083 | | .79044 | 70,1 | .20956 |
| .0619 | .79197 | 70,3 | .00083 | | .79114 | 70,0 | .20886 |
| 0.0620 | 8.79267 | 70,1 | 0.00083 | 0,3 | 8.79184 | 69,9 | 1.20816 |
| .0621 | .79337 | 70,0 | .00084 | | .79253 | 69,8 | .20747 |
| .0622 | .79407 | 69,9 | .00084 | | .79323 | 69,6 | .20677 |
| .0623 | .79477 | 69,8 | .00084 | | .79393 | 69,5 | .20607 |
| .0624 | .79547 | 69,7 | .00084 | | .79462 | 69,4 | .20538 |
| 0.0625 | 8.79616 | 69,6 | 0.00085 | 0,3 | 8.79532 | 69,3 | 1.20468 |
| .0626 | .79686 | 69,5 | .00085 | | .79601 | 69,2 | .20399 |
| .0627 | .79755 | 69,4 | .00085 | | .79670 | 69,1 | .20330 |
| .0628 | .79825 | 69,2 | .00086 | | .79739 | 69,0 | .20261 |
| .0629 | .79894 | 69,1 | .00086 | | .79808 | 68,9 | .20192 |
| 0.0630 | 8.79963 | 69,0 | 0.00086 | 0,3 | 8.79877 | 68,8 | 1.20123 |
| .0631 | .80032 | 68,9 | .00086 | | .79945 | 68,6 | .20055 |
| .0632 | .80101 | 68,8 | .00087 | | .80014 | 68,5 | .19986 |
| .0633 | .80169 | 68,7 | .00087 | | .80082 | 68,4 | .19918 |
| .0634 | .80238 | 68,6 | .00087 | | .80151 | 68,3 | .19849 |
| 0.0635 | 8.80307 | 68,5 | 0.00088 | 0,3 | 8.80219 | 68,2 | 1.19781 |
| .0636 | .80375 | 68,4 | .00088 | | .80287 | 68,1 | .19713 |
| .0637 | .80443 | 68,3 | .00088 | | .80355 | 68,0 | .19645 |
| .0638 | .80512 | 68,2 | .00088 | | .80423 | 67,9 | .19577 |
| .0639 | .80580 | 68,1 | .00089 | | .80491 | 67,8 | .19509 |
| 0.0640 | 8.80648 | 68,0 | 0.00089 | 0,3 | 8.80559 | 67,7 | 1.19441 |
| .0641 | .80716 | 67,8 | .00089 | | .80626 | 67,6 | .19374 |
| .0642 | .80783 | 67,7 | .00089 | | .80694 | 67,5 | .19306 |
| .0643 | .80851 | 67,6 | .00090 | | .80761 | 67,4 | .19239 |
| .0644 | .80919 | 67,5 | .00090 | | .80829 | 67,3 | .19171 |
| 0.0645 | 8.80986 | 67,4 | 0.00090 | 0,3 | 8.80896 | 67,1 | 1.19104 |
| .0646 | .81053 | 67,3 | .00091 | | .80963 | 67,0 | .19037 |
| .0647 | .81121 | 67,2 | .00091 | | .81030 | 66,9 | .18970 |
| .0648 | .81188 | 67,1 | .00091 | | .81097 | 66,8 | .18903 |
| .0649 | .81255 | 67,0 | .00091 | | .81164 | 66,7 | .18836 |
| 0.0650 | 8.81322 | 66,9 | 0.00092 | 0,3 | 8.81230 | 66,6 | 1.18770 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0650 | 8.81322 | 66,9 | 0.00092 | 0,3 | 8.81230 | 66,6 | 1.18770 |
| .0651 | .81389 | 66,8 | .00092 | | .81297 | 66,5 | .18703 |
| .0652 | .81456 | 66,7 | .00092 | | .81363 | 66,4 | .18637 |
| .0653 | .81522 | 66,6 | .00093 | | .81430 | 66,3 | .18570 |
| .0654 | .81589 | 66,5 | .00093 | | .81496 | 66,2 | .18504 |
| 0.0655 | 8.81655 | 66,4 | 0.00093 | 0,3 | 8.81562 | 66,1 | 1.18438 |
| .0656 | .81722 | 66,3 | .00093 | | .81628 | 66,0 | .18372 |
| .0657 | .81788 | 66,2 | .00094 | | .81694 | 65,9 | .18306 |
| .0658 | .81854 | 66,1 | .00094 | | .81760 | 65,8 | .18240 |
| .0659 | .81920 | 66,0 | .00094 | | .81826 | 65,7 | .18174 |
| 0.0660 | 8.81986 | 65,9 | 0.00095 | 0,3 | 8.81891 | 65,6 | 1.18109 |
| .0661 | .82052 | 65,8 | .00095 | | .81957 | 65,5 | .18043 |
| .0662 | .82118 | 65,7 | .00095 | | .82022 | 65,4 | .17978 |
| .0663 | .82183 | 65,6 | .00095 | | .82088 | 65,3 | .17912 |
| .0664 | .82249 | 65,5 | .00096 | | .82153 | 65,2 | .17847 |
| 0.0665 | 8.82314 | 65,4 | 0.00096 | 0,3 | 8.82218 | 65,1 | 1.17782 |
| .0666 | .82380 | 65,3 | .00096 | | .82283 | 65,0 | .17717 |
| .0667 | .82445 | 65,2 | .00097 | | .82348 | 64,9 | .17652 |
| .0668 | .82510 | 65,1 | .00097 | | .82413 | 64,8 | .17587 |
| .0669 | .82575 | 65,0 | .00097 | | .82478 | 64,7 | .17522 |
| 0.0670 | 8.82640 | 64,9 | 0.00097 | 0,3 | 8.82543 | 64,6 | 1.17457 |
| .0671 | .82705 | 64,8 | .00098 | | .82607 | 64,5 | .17393 |
| .0672 | .82770 | 64,7 | .00098 | | .82672 | 64,4 | .17328 |
| .0673 | .82834 | 64,6 | .00098 | | .82736 | 64,3 | .17264 |
| .0674 | .82899 | 64,5 | .00099 | | .82800 | 64,2 | .17200 |
| 0.0675 | 8.82963 | 64,4 | 0.00099 | 0,3 | 8.82864 | 64,1 | 1.17136 |
| .0676 | .83028 | 64,3 | .00099 | | .82929 | 64,1 | .17071 |
| .0677 | .83092 | 64,2 | .00099 | | .82994 | 64,0 | .17006 |
| .0678 | .83156 | 64,2 | .00100 | | .83056 | 63,9 | .16944 |
| .0679 | .83220 | 64,1 | .00100 | | .83120 | 63,8 | .16880 |
| 0.0680 | 8.83284 | 64,0 | 0.00100 | 0,3 | 8.83184 | 63,7 | 1.16816 |
| .0681 | .83348 | 63,9 | .00101 | | .83248 | 63,6 | .16752 |
| .0682 | .83412 | 63,8 | .00101 | | .83311 | 63,5 | .16689 |
| .0683 | .83476 | 63,7 | .00101 | | .83375 | 63,4 | .16625 |
| .0684 | .83539 | 63,6 | .00102 | | .83438 | 63,3 | .16562 |
| 0.0685 | 8.83603 | 63,5 | 0.00102 | 0,3 | 8.83501 | 63,2 | 1.16499 |
| .0686 | .83666 | 63,4 | .00102 | | .83564 | 63,1 | .16436 |
| .0687 | .83730 | 63,3 | .00102 | | .83627 | 63,0 | .16373 |
| .0688 | .83793 | 63,2 | .00103 | | .83690 | 62,9 | .16310 |
| .0689 | .83856 | 63,1 | .00103 | | .83753 | 62,8 | .16247 |
| 0.0690 | 8.83919 | 63,0 | 0.00103 | 0,3 | 8.83816 | 62,7 | 1.16184 |
| .0691 | .83982 | 63,0 | .00104 | | .83879 | 62,7 | .16121 |
| .0692 | .84045 | 62,9 | .00104 | | .83941 | 62,6 | .16059 |
| .0693 | .84108 | 62,8 | .00104 | | .84004 | 62,5 | .15996 |
| .0694 | .84171 | 62,7 | .00105 | | .84066 | 62,4 | .15934 |
| 0.0695 | 8.84233 | 62,6 | 0.00105 | 0,3 | 8.84129 | 62,3 | 1.15871 |
| .0696 | .84296 | 62,5 | .00105 | | .84191 | 62,2 | .15809 |
| .0697 | .84358 | 62,4 | .00105 | | .84253 | 62,1 | .15747 |
| .0698 | .84421 | 62,3 | .00106 | | .84315 | 62,0 | .15685 |
| .0699 | .84483 | 62,2 | .00106 | | .84377 | 61,9 | .15623 |
| 0.0700 | 8.84545 | 62,1 | 0.00106 | 0,3 | 8.84439 | 61,8 | 1.15561 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0700 | 8.84545 | 62,1 | 0.00106 | 0,3 | 8.84439 | 61,8 | 1.15561 |
| .0701 | .84607 | 62,1 | .00107 | | .84501 | 61,8 | .15499 |
| .0702 | .84669 | 62,0 | .00107 | | .84562 | 61,7 | .15438 |
| .0703 | .84731 | 61,9 | .00107 | | .84624 | 61,6 | .15376 |
| .0704 | .84793 | 61,8 | .00108 | | .84686 | 61,5 | .15314 |
| 0.0705 | 8.84855 | 61,7 | 0.00108 | 0,3 | 8.84747 | 61,4 | 1.15253 |
| .0706 | .84917 | 61,6 | .00108 | | .84808 | 61,3 | .15192 |
| .0707 | .84978 | 61,5 | .00108 | | .84870 | 61,2 | .15130 |
| .0708 | .85040 | 61,4 | .00109 | | .84931 | 61,1 | .15069 |
| .0709 | .85101 | 61,4 | .00109 | | .84992 | 61,0 | .15008 |
| 0.0710 | 8.85162 | 61,3 | 0.00109 | 0,3 | 8.85053 | 61,0 | 1.14947 |
| .0711 | .85224 | 61,2 | .00110 | | .85114 | 60,9 | .14886 |
| .0712 | .85285 | 61,1 | .00110 | | .85175 | 60,8 | .14825 |
| .0713 | .85346 | 61,0 | .00110 | | .85235 | 60,7 | .14765 |
| .0714 | .85407 | 60,9 | .00111 | | .85296 | 60,6 | .14704 |
| 0.0715 | 8.85468 | 60,8 | 0.00111 | 0,3 | 8.85357 | 60,5 | 1.14643 |
| .0716 | .85528 | 60,8 | .00111 | | .85417 | 60,4 | .14583 |
| .0717 | .85589 | 60,7 | .00112 | | .85478 | 60,4 | .14522 |
| .0718 | .85650 | 60,6 | .00112 | | .85538 | 60,3 | .14462 |
| .0719 | .85710 | 60,5 | .00112 | | .85598 | 60,2 | .14402 |
| 0.0720 | 8.85771 | 60,4 | 0.00112 | 0,3 | 8.85658 | 60,1 | 1.14342 |
| .0721 | .85831 | 60,3 | .00113 | | .85718 | 60,0 | .14282 |
| .0722 | .85891 | 60,3 | .00113 | | .85778 | 59,9 | .14222 |
| .0723 | .85952 | 60,2 | .00113 | | .85838 | 59,9 | .14162 |
| .0724 | .86012 | 60,1 | .00114 | | .85898 | 59,8 | .14102 |
| 0.0725 | 8.86072 | 60,0 | 0.00114 | 0,3 | 8.85958 | 59,7 | 1.14042 |
| .0726 | .86132 | 59,9 | .00114 | | .86017 | 59,6 | .13983 |
| .0727 | .86192 | 59,8 | .00115 | | .86077 | 59,5 | .13923 |
| .0728 | .86251 | 59,8 | .00115 | | .86137 | 59,5 | .13863 |
| .0729 | .86311 | 59,7 | .00115 | | .86196 | 59,4 | .13804 |
| 0.0730 | 8.86371 | 59,6 | 0.00116 | 0,3 | 8.86255 | 59,3 | 1.13745 |
| .0731 | .86430 | 59,5 | .00116 | | .86314 | 59,2 | .13686 |
| .0732 | .86490 | 59,4 | .00116 | | .86374 | 59,1 | .13626 |
| .0733 | .86549 | 59,4 | .00117 | | .86433 | 59,0 | .13567 |
| .0734 | .86609 | 59,3 | .00117 | | .86492 | 59,0 | .13508 |
| 0.0735 | 8.86668 | 59,2 | 0.00117 | 0,3 | 8.86551 | 58,9 | 1.13449 |
| .0736 | .86727 | 59,1 | .00118 | | .86609 | 58,8 | .13391 |
| .0737 | .86786 | 59,0 | .00118 | | .86668 | 58,7 | .13332 |
| .0738 | .86845 | 59,0 | .00118 | | .86727 | 58,6 | .13273 |
| .0739 | .86904 | 58,9 | .00118 | | .86785 | 58,6 | .13215 |
| 0.0740 | 8.86963 | 58,8 | 0.00119 | 0,3 | 8.86844 | 58,5 | 1.13156 |
| .0741 | .87022 | 58,7 | .00119 | | .86902 | 58,4 | .13098 |
| .0742 | .87080 | 58,6 | .00119 | | .86961 | 58,3 | .13039 |
| .0743 | .87139 | 58,6 | .00120 | | .87019 | 58,2 | .12981 |
| .0744 | .87197 | 58,5 | .00120 | | .87077 | 58,2 | .12923 |
| 0.0745 | 8.87256 | 58,4 | 0.00120 | 0,3 | 8.87135 | 58,1 | 1.12865 |
| .0746 | .87314 | 58,3 | .00121 | | .87193 | 58,0 | .12807 |
| .0747 | .87372 | 58,2 | .00121 | | .87251 | 57,9 | .12749 |
| .0748 | .87431 | 58,2 | .00121 | | .87309 | 57,8 | .12691 |
| .0749 | .87489 | 58,1 | .00122 | | .87367 | 57,8 | .12633 |
| 0.0750 | 8.87547 | 58,0 | 0.00122 | 0,3 | 8.87425 | 57,7 | 1.12575 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0750 | 8.87547 | 58.0 | 0.00122 | 0.3 | 8.87425 | 57.7 | I. 12575 |
| .0751 | .87605 | 57.9 | .00122 | | .87482 | 57.6 | .12518 |
| .0752 | .87663 | 57.9 | .00123 | | .87540 | 57.5 | .12460 |
| .0753 | .87721 | 57.8 | .00123 | | .87598 | 57.5 | .12402 |
| .0754 | .87778 | 57.7 | .00123 | | .87655 | 57.4 | .12345 |
| 0.0755 | 8.87836 | 57.6 | 0.00124 | 0.3 | 8.87712 | 57.3 | I. 12288 |
| .0756 | .87894 | 57.6 | .00124 | | .87770 | 57.2 | .12230 |
| .0757 | .87951 | 57.5 | .00124 | | .87827 | 57.2 | .12173 |
| .0758 | .88009 | 57.4 | .00125 | | .87884 | 57.1 | .12116 |
| .0759 | .88066 | 57.3 | .00125 | | .87941 | 57.0 | .12059 |
| 0.0760 | 8.88123 | 57.3 | 0.00125 | 0.3 | 8.87998 | 56.9 | I. 12002 |
| .0761 | .88180 | 57.2 | .00126 | | .88055 | 56.8 | .11945 |
| .0762 | .88238 | 57.1 | .00126 | | .88112 | 56.8 | .11888 |
| .0763 | .88295 | 57.0 | .00126 | | .88168 | 56.7 | .11832 |
| .0764 | .88352 | 57.0 | .00127 | | .88225 | 56.6 | .11775 |
| 0.0765 | 8.88408 | 56.9 | 0.00127 | 0.3 | 8.88282 | 56.5 | I. 11718 |
| .0766 | .88465 | 56.8 | .00127 | | .88338 | 56.5 | .11662 |
| .0767 | .88522 | 56.7 | .00128 | | .88394 | 56.4 | .11606 |
| .0768 | .88579 | 56.7 | .00128 | | .88451 | 56.3 | .11549 |
| .0769 | .88635 | 56.6 | .00128 | | .88507 | 56.3 | .11493 |
| 0.0770 | 8.88692 | 56.5 | 0.00129 | 0.3 | 8.88563 | 56.2 | I. 11437 |
| .0771 | .88748 | 56.4 | .00129 | | .88620 | 56.1 | .11380 |
| .0772 | .88805 | 56.4 | .00129 | | .88676 | 56.0 | .11324 |
| .0773 | .88861 | 56.3 | .00130 | | .88732 | 56.0 | .11268 |
| .0774 | .88917 | 56.2 | .00130 | | .88787 | 55.9 | .11213 |
| 0.0775 | 8.88974 | 56.2 | 0.00130 | 0.3 | 8.88843 | 55.8 | I. 11157 |
| .0776 | .89030 | 56.1 | .00131 | | .88899 | 55.7 | .11101 |
| .0777 | .89086 | 56.0 | .00131 | | .88955 | 55.7 | .11045 |
| .0778 | .89142 | 55.9 | .00131 | | .89010 | 55.6 | .10990 |
| .0779 | .89198 | 55.9 | .00132 | | .89066 | 55.5 | .10934 |
| 0.0780 | 8.89253 | 55.8 | 0.00132 | 0.3 | 8.89122 | 55.5 | I. 10878 |
| .0781 | .89309 | 55.7 | .00132 | | .89177 | 55.4 | .10823 |
| .0782 | .89365 | 55.6 | .00133 | | .89232 | 55.3 | .10768 |
| .0783 | .89421 | 55.6 | .00133 | | .89288 | 55.2 | .10712 |
| .0784 | .89476 | 55.5 | .00133 | | .89343 | 55.2 | .10657 |
| 0.0785 | 8.89532 | 55.4 | 0.00134 | 0.3 | 8.89398 | 55.1 | I. 10602 |
| .0786 | .89587 | 55.4 | .00134 | | .89453 | 55.0 | .10547 |
| .0787 | .89642 | 55.3 | .00134 | | .89508 | 55.0 | .10492 |
| .0788 | .89698 | 55.2 | .00135 | | .89563 | 54.9 | .10437 |
| .0789 | .89753 | 55.2 | .00135 | | .89618 | 54.8 | .10382 |
| 0.0790 | 8.89808 | 55.1 | 0.00135 | 0.3 | 8.89672 | 54.7 | I. 10328 |
| .0791 | .89863 | 55.0 | .00136 | | .89727 | 54.7 | .10273 |
| .0792 | .89918 | 54.9 | .00136 | | .89782 | 54.6 | .10218 |
| .0793 | .89973 | 54.9 | .00136 | | .89836 | 54.5 | .10164 |
| .0794 | .90028 | 54.8 | .00137 | | .89891 | 54.5 | .10109 |
| 0.0795 | 8.90082 | 54.7 | 0.00137 | 0.3 | 8.90045 | 54.4 | I. 10055 |
| .0796 | .90137 | 54.7 | .00137 | | .90000 | 54.3 | .10000 |
| .0797 | .90192 | 54.6 | .00138 | | .90054 | 54.3 | .09946 |
| .0798 | .90246 | 54.5 | .00138 | | .90108 | 54.2 | .09892 |
| .0799 | .90301 | 54.5 | .00138 | | .90162 | 54.1 | .09838 |
| 0.0800 | 8.90355 | 54.4 | 0.00139 | 0.3 | 8.90216 | 54.1 | I. 09784 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0800 | 8.90355 | 54.4 | 0.00139 | 0,3 | 8.90216 | 54,1 | 1.09784 |
| .0801 | .90410 | 54,3 | .00139 | | .90271 | 54,0 | .09729 |
| .0802 | .90464 | 54,3 | .00140 | | .90324 | 53,9 | .09676 |
| .0803 | .90518 | 54,2 | .00140 | | .90380 | 53,9 | .09620 |
| .0804 | .90572 | 54,1 | .00140 | | .90432 | 53,8 | .09568 |
| 0.0805 | 8.90626 | 54,1 | 0.00141 | 0,3 | 8.90486 | 53,7 | 1.09514 |
| .0806 | .90681 | 54,0 | .00141 | 0,3 | .90540 | 53,6 | .09460 |
| .0807 | .90734 | 53,9 | .00141 | 0,3 | .90593 | 53,6 | .09407 |
| .0808 | .90788 | 53,9 | .00142 | 0,4 | .90647 | 53,5 | .09353 |
| .0809 | .90842 | 53,8 | .00142 | 0,4 | .90700 | 53,4 | .09300 |
| 0.0810 | 8.90896 | 53,7 | 0.00142 | 0,4 | 8.90754 | 53,4 | 1.09246 |
| .0811 | .90950 | 53,7 | .00143 | | .90807 | 53,3 | .09193 |
| .0812 | .91003 | 53,6 | .00143 | | .90860 | 53,3 | .09140 |
| .0813 | .91057 | 53,5 | .00143 | | .90914 | 53,2 | .09086 |
| .0814 | .91110 | 53,5 | .00144 | | .90967 | 53,1 | .09033 |
| 0.0815 | 8.91164 | 53,4 | 0.00144 | 0,4 | 8.91020 | 53,1 | 1.08980 |
| .0816 | .91217 | 53,3 | .00144 | | .91073 | 53,0 | .08927 |
| .0817 | .91271 | 53,3 | .00145 | | .91126 | 52,9 | .08874 |
| .0818 | .91324 | 53,2 | .00145 | | .91179 | 52,9 | .08821 |
| .0819 | .91377 | 53,1 | .00145 | | .91231 | 52,8 | .08769 |
| 0.0820 | 8.91430 | 53,1 | 0.00146 | 0,4 | 8.91284 | 52,7 | 1.08716 |
| .0821 | .91483 | 53,0 | .00146 | | .91337 | 52,7 | .08663 |
| .0822 | .91536 | 53,0 | .00147 | | .91390 | 52,6 | .08610 |
| .0823 | .91589 | 52,9 | .00147 | | .91442 | 52,5 | .08558 |
| .0824 | .91642 | 52,8 | .00147 | | .91495 | 52,5 | .08505 |
| 0.0825 | 8.91695 | 52,8 | 0.00148 | 0,4 | 8.91547 | 52,4 | 1.08453 |
| .0826 | .91747 | 52,7 | .00148 | | .91599 | 52,3 | .08401 |
| .0827 | .91800 | 52,6 | .00148 | | .91652 | 52,3 | .08348 |
| .0828 | .91853 | 52,6 | .00149 | | .91704 | 52,2 | .08296 |
| .0829 | .91905 | 52,5 | .00149 | | .91756 | 52,1 | .08244 |
| 0.0830 | 8.91958 | 52,4 | 0.00149 | 0,4 | 8.91808 | 52,1 | 1.08192 |
| .0831 | .92010 | 52,4 | .00150 | | .91860 | 52,0 | .08140 |
| .0832 | .92062 | 52,3 | .00150 | | .91912 | 52,0 | .08088 |
| .0833 | .92115 | 52,3 | .00151 | | .91964 | 51,9 | .08036 |
| .0834 | .92167 | 52,2 | .00151 | | .92016 | 51,8 | .07984 |
| 0.0835 | 8.92219 | 52,1 | 0.00151 | 0,4 | 8.92068 | 51,8 | 1.07932 |
| .0836 | .92271 | 52,1 | .00152 | | .92120 | 51,7 | .07880 |
| .0837 | .92323 | 52,0 | .00152 | | .92171 | 51,6 | .07829 |
| .0838 | .92375 | 51,9 | .00152 | | .92223 | 51,6 | .07777 |
| .0839 | .92427 | 51,9 | .00153 | | .92274 | 51,5 | .07726 |
| 0.0840 | 8.92479 | 51,8 | 0.00153 | 0,4 | 8.92326 | 51,5 | 1.07674 |
| .0841 | .92531 | 51,8 | .00153 | | .92377 | 51,4 | .07623 |
| .0842 | .92583 | 51,7 | .00154 | | .92429 | 51,3 | .07571 |
| .0843 | .92634 | 51,6 | .00154 | | .92480 | 51,3 | .07520 |
| .0844 | .92686 | 51,6 | .00154 | | .92531 | 51,2 | .07469 |
| 0.0845 | 8.92737 | 51,5 | 0.00155 | 0,4 | 8.92582 | 51,2 | 1.07418 |
| .0846 | .92789 | 51,5 | .00155 | | .92634 | 51,1 | .07366 |
| .0847 | .92840 | 51,4 | .00156 | | .92685 | 51,0 | .07315 |
| .0848 | .92892 | 51,3 | .00156 | | .92736 | 51,0 | .07264 |
| .0849 | .92943 | 51,3 | .00156 | | .92787 | 50,9 | .07213 |
| 0.0850 | 8.92994 | 51,2 | 0.00157 | 0,4 | 8.92837 | 50,8 | 1.07163 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0850 | 8.92094 | 51,2 | 0.00157 | 0,4 | 8.92837 | 50,8 | 1.07163 |
| .0851 | .93045 | 51,2 | .00157 | | .92888 | 50,8 | .07112 |
| .0852 | .93096 | 51,1 | .00157 | | .92939 | 50,7 | .07061 |
| .0853 | .93148 | 51,0 | .00158 | | .92990 | 50,7 | .07010 |
| .0854 | .93199 | 51,0 | .00158 | | .93040 | 50,6 | .06960 |
| 0.0855 | 8.93250 | 50,9 | 0.00159 | 0,4 | 8.93091 | 50,5 | 1.06909 |
| .0856 | .93300 | 50,9 | .00159 | | .93141 | 50,5 | .06859 |
| .0857 | .93351 | 50,8 | .00159 | | .93192 | 50,4 | .06808 |
| .0858 | .93402 | 50,7 | .00160 | | .93242 | 50,4 | .06758 |
| .0859 | .93453 | 50,7 | .00160 | | .93293 | 50,3 | .06707 |
| 0.0860 | 8.93503 | 50,6 | 0.00160 | 0,4 | 8.93343 | 50,3 | 1.06657 |
| .0861 | .93554 | 50,6 | .00161 | | .93393 | 50,2 | .06607 |
| .0862 | .93604 | 50,5 | .00161 | | .93443 | 50,1 | .06557 |
| .0863 | .93655 | 50,4 | .00162 | | .93493 | 50,1 | .06507 |
| .0864 | .93705 | 50,4 | .00162 | | .93543 | 50,0 | .06457 |
| 0.0865 | 8.93756 | 50,3 | 0.00162 | 0,4 | 8.93593 | 50,0 | 1.06407 |
| .0866 | .93806 | 50,3 | .00163 | | .93643 | 49,9 | .06357 |
| .0867 | .93856 | 50,2 | .00163 | | .93693 | 49,8 | .06307 |
| .0868 | .93907 | 50,2 | .00163 | | .93743 | 49,8 | .06257 |
| .0869 | .93957 | 50,1 | .00164 | | .93793 | 49,7 | .06207 |
| 0.0870 | 8.94007 | 50,0 | 0.00164 | 0,4 | 8.93843 | 49,7 | 1.06157 |
| .0871 | .94057 | 50,0 | .00165 | | .93892 | 49,6 | .06108 |
| .0872 | .94107 | 49,9 | .00165 | | .93942 | 49,6 | .06058 |
| .0873 | .94157 | 49,9 | .00165 | | .93991 | 49,5 | .06009 |
| .0874 | .94206 | 49,8 | .00166 | | .94041 | 49,4 | .05959 |
| 0.0875 | 8.94256 | 49,8 | 0.00166 | 0,4 | 8.94090 | 49,4 | 1.05910 |
| .0876 | .94306 | 49,7 | .00166 | | .94140 | 49,3 | .05860 |
| .0877 | .94356 | 49,6 | .00167 | | .94189 | 49,3 | .05811 |
| .0878 | .94405 | 49,6 | .00167 | | .94238 | 49,2 | .05762 |
| .0879 | .94455 | 49,5 | .00168 | | .94287 | 49,2 | .05713 |
| 0.0880 | 8.94504 | 49,5 | 0.00168 | 0,4 | 8.94336 | 49,1 | 1.05664 |
| .0881 | .94554 | 49,4 | .00168 | | .94385 | 49,0 | .05615 |
| .0882 | .94603 | 49,4 | .00169 | | .94434 | 49,0 | .05566 |
| .0883 | .94652 | 49,3 | .00169 | | .94483 | 48,9 | .05517 |
| .0884 | .94702 | 49,3 | .00169 | | .94532 | 48,9 | .05468 |
| 0.0885 | 8.94751 | 49,2 | 0.00170 | 0,4 | 8.94581 | 48,8 | 1.05419 |
| .0886 | .94800 | 49,1 | .00170 | | .94630 | 48,8 | .05370 |
| .0887 | .94849 | 49,1 | .00171 | | .94679 | 48,7 | .05321 |
| .0888 | .94898 | 49,0 | .00171 | | .94727 | 48,7 | .05273 |
| .0889 | .94947 | 49,0 | .00171 | | .94776 | 48,6 | .05224 |
| 0.0890 | 8.94996 | 48,9 | 0.00172 | 0,4 | 8.94825 | 48,5 | 1.05175 |
| .0891 | .95045 | 48,9 | .00172 | | .94873 | 48,5 | .05127 |
| .0892 | .95094 | 48,8 | .00173 | | .94922 | 48,4 | .05078 |
| .0893 | .95143 | 48,8 | .00173 | | .94970 | 48,4 | .05030 |
| .0894 | .95192 | 48,7 | .00173 | | .95018 | 48,3 | .04982 |
| 0.0895 | 8.95240 | 48,7 | 0.00174 | 0,4 | 8.95067 | 48,3 | 1.04933 |
| .0896 | .95289 | 48,6 | .00174 | | .95115 | 48,2 | .04885 |
| .0897 | .95337 | 48,5 | .00174 | | .95163 | 48,2 | .04837 |
| .0898 | .95386 | 48,5 | .00175 | | .95211 | 48,1 | .04789 |
| .0899 | .95434 | 48,4 | .00175 | | .95259 | 48,0 | .04741 |
| 0.0900 | 8.95483 | 48,4 | 0.00176 | 0,4 | 8.95307 | 48,0 | 1.04693 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0900 | 8.95483 | 48,4 | 0.00176 | 0,4 | 8.95307 | 48,0 | I.04693 |
| .0901 | .95531 | 48,3 | .00176 | | .95355 | 47,9 | .04645 |
| .0902 | .95580 | 48,3 | .00176 | | .95403 | 47,9 | .04597 |
| .0903 | .95628 | 48,2 | .00177 | | .95451 | 47,8 | .04549 |
| .0904 | .95676 | 48,2 | .00177 | | .95499 | 47,8 | .04501 |
| 0.0905 | 8.95724 | 48,1 | 0.00178 | 0,4 | 8.95547 | 47,7 | I.04453 |
| .0906 | .95772 | 48,1 | .00178 | | .95594 | 47,7 | .04406 |
| .0907 | .95820 | 48,0 | .00178 | | .95642 | 47,6 | .04358 |
| .0908 | .95868 | 48,0 | .00179 | | .95689 | 47,6 | .04311 |
| .0909 | .95916 | 47,9 | .00179 | | .95737 | 47,5 | .04263 |
| 0.0910 | 8.95964 | 47,9 | 0.00180 | 0,4 | 8.95784 | 47,5 | I.04216 |
| .0911 | .96012 | 47,8 | .00180 | | .95832 | 47,4 | .04168 |
| .0912 | .96060 | 47,8 | .00180 | | .95879 | 47,4 | .04121 |
| .0913 | .96107 | 47,7 | .00181 | | .95927 | 47,3 | .04073 |
| .0914 | .96155 | 47,6 | .00181 | | .95974 | 47,3 | .04026 |
| 0.0915 | 8.96203 | 47,6 | 0.00182 | 0,4 | 8.96021 | 47,2 | I.03979 |
| .0916 | .96250 | 47,5 | .00182 | | .96068 | 47,1 | .03932 |
| .0917 | .96298 | 47,5 | .00182 | | .96115 | 47,1 | .03885 |
| .0918 | .96345 | 47,4 | .00183 | | .96163 | 47,0 | .03837 |
| .0919 | .96393 | 47,4 | .00183 | | .96210 | 47,0 | .03790 |
| 0.0920 | 8.96440 | 47,3 | 0.00184 | 0,4 | 8.96256 | 46,9 | I.03744 |
| .0921 | .96487 | 47,3 | .00184 | | .96303 | 46,9 | .03697 |
| .0922 | .96535 | 47,2 | .00184 | | .96350 | 46,8 | .03650 |
| .0923 | .96582 | 47,2 | .00185 | | .96397 | 46,8 | .03603 |
| .0924 | .96629 | 47,1 | .00185 | | .96444 | 46,7 | .03556 |
| 0.0925 | 8.96676 | 47,1 | 0.00186 | 0,4 | 8.96491 | 46,7 | I.03509 |
| .0926 | .96723 | 47,0 | .00186 | | .96537 | 46,6 | .03463 |
| .0927 | .96770 | 47,0 | .00186 | | .96584 | 46,6 | .03416 |
| .0928 | .96817 | 46,9 | .00187 | | .96630 | 46,5 | .03370 |
| .0929 | .96864 | 46,9 | .00187 | | .96677 | 46,5 | .03323 |
| 0.0930 | 8.96911 | 46,8 | 0.00188 | 0,4 | 8.96723 | 46,4 | I.03277 |
| .0931 | .96958 | 46,8 | .00188 | | .96770 | 46,4 | .03230 |
| .0932 | .97004 | 46,7 | .00188 | | .96816 | 46,3 | .03184 |
| .0933 | .97051 | 46,7 | .00189 | | .96862 | 46,3 | .03138 |
| .0934 | .97098 | 46,6 | .00189 | | .96909 | 46,2 | .03091 |
| 0.0935 | 8.97144 | 46,6 | 0.00190 | 0,4 | 8.96955 | 46,2 | I.03045 |
| .0936 | .97191 | 46,5 | .00190 | | .97001 | 46,1 | .02999 |
| .0937 | .97237 | 46,5 | .00190 | | .97047 | 46,1 | .02953 |
| .0938 | .97284 | 46,4 | .00191 | | .97093 | 46,0 | .02907 |
| .0939 | .97330 | 46,4 | .00191 | | .97139 | 46,0 | .02861 |
| 0.0940 | 8.97377 | 46,3 | 0.00192 | 0,4 | 8.97185 | 45,9 | I.02815 |
| .0941 | .97423 | 46,3 | .00192 | | .97231 | 45,9 | .02769 |
| .0942 | .97469 | 46,2 | .00192 | | .97277 | 45,8 | .02723 |
| .0943 | .97516 | 46,2 | .00193 | | .97323 | 45,8 | .02677 |
| .0944 | .97562 | 46,1 | .00193 | | .97368 | 45,7 | .02632 |
| 0.0945 | 8.97608 | 46,1 | 0.00194 | 0,4 | 8.97414 | 45,7 | I.02586 |
| .0946 | .97654 | 46,0 | .00194 | | .97460 | 45,6 | .02540 |
| .0947 | .97700 | 46,0 | .00194 | | .97505 | 45,6 | .02495 |
| .0948 | .97746 | 45,9 | .00195 | | .97551 | 45,5 | .02449 |
| .0949 | .97792 | 45,9 | .00195 | | .97597 | 45,5 | .02403 |
| 0.0950 | 8.97838 | 45,9 | 0.00196 | 0,4 | 8.97642 | 45,4 | I.02358 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.0950 | 8.97838 | 45.9 | 0.00196 | 0.4 | 8.97642 | 45.4 | 1.02358 |
| .0951 | .97883 | 45.8 | .00196 | | .97687 | 45.4 | .02313 |
| .0952 | .97929 | 45.8 | .00197 | | .97733 | 45.3 | .02267 |
| .0953 | .97975 | 45.7 | .00197 | | .97778 | 45.3 | .02222 |
| .0954 | .98021 | 45.7 | .00197 | | .97823 | 45.2 | .02177 |
| 0.0955 | 8.98066 | 45.6 | 0.00198 | 0.4 | 8.97869 | 45.2 | 1.02131 |
| .0956 | .98112 | 45.6 | .00198 | | .97914 | 45.2 | .02086 |
| .0957 | .98157 | 45.5 | .00199 | | .97959 | 45.1 | .02041 |
| .0958 | .98203 | 45.5 | .00199 | | .98004 | 45.1 | .01996 |
| .0959 | .98248 | 45.4 | .00199 | | .98049 | 45.0 | .01951 |
| 0.0960 | 8.98294 | 45.4 | 0.00200 | 0.4 | 8.98094 | 45.0 | 1.01906 |
| .0961 | .98339 | 45.3 | .00200 | | .98139 | 44.9 | .01861 |
| .0962 | .98384 | 45.3 | .00201 | | .98184 | 44.9 | .01816 |
| .0963 | .98430 | 45.2 | .00201 | | .98229 | 44.8 | .01771 |
| .0964 | .98475 | 45.2 | .00201 | | .98273 | 44.8 | .01727 |
| 0.0965 | 8.98520 | 45.1 | 0.00202 | 0.4 | 8.98318 | 44.7 | 1.01682 |
| .0966 | .98565 | 45.1 | .00202 | | .98363 | 44.7 | .01637 |
| .0967 | .98610 | 45.1 | .00203 | | .98408 | 44.6 | .01592 |
| .0968 | .98655 | 45.0 | .00203 | | .98452 | 44.6 | .01548 |
| .0969 | .98700 | 45.0 | .00204 | | .98497 | 44.5 | .01503 |
| 0.0970 | 8.98745 | 44.9 | 0.00204 | 0.4 | 8.98541 | 44.5 | 1.01459 |
| .0971 | .98790 | 44.9 | .00204 | | .98586 | 44.5 | .01414 |
| .0972 | .98835 | 44.8 | .00205 | | .98630 | 44.4 | .01370 |
| .0973 | .98880 | 44.8 | .00205 | | .98675 | 44.4 | .01325 |
| .0974 | .98925 | 44.7 | .00206 | | .98719 | 44.3 | .01281 |
| 0.0975 | 8.98969 | 44.7 | 0.00206 | 0.4 | 8.98763 | 44.3 | 1.01237 |
| .0976 | .99014 | 44.6 | .00207 | | .98807 | 44.2 | .01193 |
| .0977 | .99059 | 44.6 | .00207 | | .98852 | 44.2 | .01148 |
| .0978 | .99103 | 44.5 | .00207 | | .98896 | 44.1 | .01104 |
| .0979 | .99148 | 44.5 | .00208 | | .98940 | 44.1 | .01060 |
| 0.0980 | 8.99192 | 44.5 | 0.00208 | 0.4 | 8.98984 | 44.0 | 1.01016 |
| .0981 | .99237 | 44.4 | .00209 | | .99028 | 44.0 | .00972 |
| .0982 | .99281 | 44.4 | .00209 | | .99072 | 43.9 | .00928 |
| .0983 | .99325 | 44.3 | .00209 | | .99116 | 43.9 | .00884 |
| .0984 | .99370 | 44.3 | .00210 | | .99160 | 43.9 | .00840 |
| 0.0985 | 8.99414 | 44.2 | 0.00210 | 0.4 | 8.99203 | 43.8 | 1.00797 |
| .0986 | .99458 | 44.2 | .00211 | | .99247 | 43.8 | .00753 |
| .0987 | .99502 | 44.2 | .00211 | | .99291 | 43.7 | .00709 |
| .0988 | .99546 | 44.1 | .00212 | | .99335 | 43.7 | .00665 |
| .0989 | .99590 | 44.1 | .00212 | | .99378 | 43.6 | .00622 |
| 0.0990 | 8.99634 | 44.0 | 0.00212 | 0.4 | 8.99422 | 43.6 | 1.00578 |
| .0991 | .99678 | 44.0 | .00213 | | .99466 | 43.5 | .00534 |
| .0992 | .99722 | 43.9 | .00213 | | .99509 | 43.5 | .00491 |
| .0993 | .99766 | 43.9 | .00214 | | .99553 | 43.4 | .00447 |
| .0994 | .99810 | 43.8 | .00214 | | .99596 | 43.4 | .00404 |
| 0.0995 | 8.99854 | 43.8 | 0.00215 | 0.4 | 8.99639 | 43.4 | 1.00361 |
| .0996 | .99898 | 43.7 | .00215 | | .99683 | 43.3 | .00317 |
| .0997 | .99941 | 43.7 | .00215 | | .99726 | 43.3 | .00274 |
| .0998 | .99985 | 43.7 | .00216 | | .99769 | 43.2 | .00231 |
| .0999 | 9.00029 | 43.6 | .00216 | | .99812 | 43.2 | .00188 |
| 0.1000 | 9.00072 | 43.6 | 0.00217 | 0.4 | 8.99856 | 43.1 | 1.00144 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.100 | 9.00072 | 435,7 | 0.00217 | 4,3 | 8.99856 | 431,4 | 1.00144 |
| .101 | .00506 | 431,5 | .00221 | 4,4 | 9.00285 | 427,1 | 0.99715 |
| .102 | .00935 | 427,3 | .00226 | 4,4 | .00710 | 422,8 | .99290 |
| .103 | .01360 | 423,1 | .00230 | 4,5 | .01131 | 418,7 | .98869 |
| .104 | .01782 | 419,1 | .00234 | 4,5 | .01547 | 414,6 | .98453 |
| 0.105 | 9.02199 | 415,1 | 0.00239 | 4,5 | 9.01960 | 410,6 | 0.98040 |
| .106 | .02612 | 411,2 | .00244 | 4,6 | .02368 | 406,7 | .97632 |
| .107 | .03021 | 407,4 | .00248 | 4,6 | .02773 | 402,8 | .97227 |
| .108 | .03427 | 403,7 | .00253 | 4,7 | .03174 | 399,0 | .96826 |
| .109 | .03829 | 400,0 | .00257 | 4,7 | .03571 | 395,3 | .96429 |
| 0.110 | 9.04227 | 396,4 | 0.00262 | 4,8 | 9.03965 | 391,6 | 0.96035 |
| .111 | .04621 | 392,9 | .00267 | 4,8 | .04354 | 388,1 | .95646 |
| .112 | .05013 | 389,4 | .00272 | 4,8 | .04741 | 384,5 | .95259 |
| .113 | .05400 | 386,0 | .00277 | 4,9 | .05124 | 381,1 | .94876 |
| .114 | .05785 | 382,6 | .00282 | 4,9 | .05503 | 377,7 | .94497 |
| 0.115 | 9.06165 | 379,3 | 0.00287 | 5,0 | 9.05879 | 374,3 | 0.94121 |
| .116 | .06543 | 376,1 | .00292 | 5,0 | .06252 | 371,1 | .93748 |
| .117 | .06918 | 372,9 | .00297 | 5,1 | .06621 | 367,8 | .93379 |
| .118 | .07289 | 369,8 | .00302 | 5,1 | .06987 | 364,7 | .93013 |
| .119 | .07657 | 366,7 | .00307 | 5,1 | .07350 | 361,5 | .92650 |
| 0.120 | 9.08022 | 363,6 | 0.00312 | 5,2 | 9.07710 | 358,5 | 0.92290 |
| .121 | .08384 | 360,7 | .00317 | 5,2 | .08067 | 355,4 | .91933 |
| .122 | .08744 | 357,7 | .00322 | 5,3 | .08421 | 352,5 | .91579 |
| .123 | .09100 | 354,9 | .00328 | 5,3 | .08772 | 349,5 | .91228 |
| .124 | .09453 | 352,0 | .00333 | 5,4 | .09120 | 346,7 | .90880 |
| 0.125 | 9.09804 | 349,2 | 0.00338 | 5,4 | 9.09466 | 343,8 | 0.90534 |
| .126 | .10152 | 346,5 | .00344 | 5,4 | .09808 | 341,1 | .90192 |
| .127 | .10497 | 343,8 | .00349 | 5,5 | .10148 | 338,3 | .89852 |
| .128 | .10840 | 341,1 | .00355 | 5,5 | .10485 | 335,6 | .89515 |
| .129 | .11179 | 338,5 | .00360 | 5,6 | .10819 | 333,0 | .89181 |
| 0.130 | 9.11517 | 336,0 | 0.00366 | 5,6 | 9.11151 | 330,3 | 0.88849 |
| .131 | .11851 | 333,4 | .00372 | 5,7 | .11480 | 327,8 | .88520 |
| .132 | .12183 | 330,9 | .00377 | 5,7 | .11806 | 325,2 | .88194 |
| .133 | .12513 | 328,5 | .00383 | 5,7 | .12130 | 322,7 | .87870 |
| .134 | .12840 | 326,0 | .00389 | 5,8 | .12452 | 320,3 | .87548 |
| 0.135 | 9.13165 | 323,7 | 0.00395 | 5,8 | 9.12771 | 317,8 | 0.87229 |
| .136 | .13488 | 321,3 | .00400 | 5,9 | .13087 | 315,4 | .86913 |
| .137 | .13808 | 319,0 | .00406 | 5,9 | .13402 | 313,1 | .86598 |
| .138 | .14126 | 316,7 | .00412 | 6,0 | .13713 | 310,7 | .86287 |
| .139 | .14441 | 314,5 | .00418 | 6,0 | .14023 | 308,5 | .85977 |
| 0.140 | 9.14755 | 312,2 | 0.00424 | 6,0 | 9.14330 | 306,2 | 0.85670 |
| .141 | .15066 | 310,0 | .00430 | 6,1 | .14635 | 304,0 | .85365 |
| .142 | .15375 | 307,9 | .00436 | 6,1 | .14938 | 301,8 | .85062 |
| .143 | .15682 | 305,8 | .00443 | 6,2 | .15239 | 299,6 | .84761 |
| .144 | .15986 | 303,7 | .00449 | 6,2 | .15538 | 297,5 | .84462 |
| 0.145 | 9.16289 | 301,6 | 0.00455 | 6,3 | 9.15834 | 295,4 | 0.84166 |
| .146 | .16589 | 299,6 | .00461 | 6,3 | .16128 | 293,3 | .83872 |
| .147 | .16888 | 297,6 | .00468 | 6,3 | .16420 | 291,2 | .83580 |
| .148 | .17185 | 295,6 | .00474 | 6,4 | .16711 | 289,2 | .83289 |
| .149 | .17479 | 293,6 | .00480 | 6,4 | .16999 | 287,2 | .83001 |
| 0.150 | 9.17772 | 291,7 | 0.00487 | 6,5 | 9.17285 | 285,2 | 0.82715 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|
| 0.150 | 9.17772 | 291,7 | 0.00487 | 6,5 | 9.17285 | 285,2 | 0.82715 |
| .151 | .18063 | 289,8 | .00493 | 6,5 | .17569 | 283,3 | .82431 |
| .152 | .18351 | 287,9 | .00500 | 6,6 | .17852 | 281,4 | .82148 |
| .153 | .18638 | 286,1 | .00506 | 6,6 | .18132 | 279,5 | .81868 |
| .154 | .18924 | 284,2 | .00513 | 6,6 | .18411 | 277,6 | .81589 |
| 0.155 | 9.19207 | 282,4 | 0.00520 | 6,7 | 9.18687 | 275,8 | 0.81313 |
| .156 | .19488 | 280,6 | .00526 | 6,7 | .18962 | 273,9 | .81038 |
| .157 | .19768 | 278,9 | .00533 | 6,8 | .19235 | 272,1 | .80765 |
| .158 | .20046 | 277,1 | .00540 | 6,8 | .19506 | 270,3 | .80494 |
| .159 | .20323 | 275,4 | .00547 | 6,8 | .19776 | 268,6 | .80224 |
| 0.160 | 9.20597 | 273,7 | 0.00554 | 6,9 | 9.20044 | 266,9 | 0.79956 |
| .161 | .20870 | 272,1 | .00560 | 6,9 | .20310 | 265,1 | .79690 |
| .162 | .21141 | 270,4 | .00567 | 7,0 | .20574 | 263,4 | .79426 |
| .163 | .21411 | 268,8 | .00574 | 7,0 | .20837 | 261,8 | .79163 |
| .164 | .21679 | 267,2 | .00581 | 7,1 | .21097 | 260,1 | .78903 |
| 0.165 | 9.21945 | 265,6 | 0.00589 | 7,1 | 9.21357 | 258,5 | 0.78643 |
| .166 | .22210 | 264,0 | .00596 | 7,1 | .21614 | 256,9 | .78386 |
| .167 | .22473 | 262,5 | .00603 | 7,2 | .21871 | 255,3 | .78129 |
| .168 | .22735 | 260,9 | .00610 | 7,2 | .22125 | 253,7 | .77875 |
| .169 | .22995 | 259,4 | .00617 | 7,3 | .22378 | 252,2 | .77622 |
| 0.170 | 9.23254 | 257,9 | 0.00625 | 7,3 | 9.22629 | 250,6 | 0.77371 |
| .171 | .23511 | 256,4 | .00632 | 7,4 | .22879 | 249,1 | .77121 |
| .172 | .23767 | 255,0 | .00639 | 7,4 | .23128 | 247,6 | .76872 |
| .173 | .24021 | 253,5 | .00647 | 7,4 | .23374 | 246,1 | .76626 |
| .174 | .24274 | 252,1 | .00654 | 7,5 | .23620 | 244,6 | .76380 |
| 0.175 | 9.24525 | 250,7 | 0.00662 | 7,5 | 9.23864 | 243,2 | 0.76136 |
| .176 | .24775 | 249,3 | .00669 | 7,6 | .24106 | 241,7 | .75894 |
| .177 | .25024 | 247,9 | .00677 | 7,6 | .24347 | 240,3 | .75653 |
| .178 | .25271 | 246,5 | .00684 | 7,6 | .24587 | 238,9 | .75413 |
| .179 | .25517 | 245,2 | .00692 | 7,7 | .24825 | 237,5 | .75175 |
| 0.180 | 9.25762 | 243,9 | 0.00700 | 7,7 | 9.25062 | 236,1 | 0.74938 |
| .181 | .26005 | 242,5 | .00708 | 7,8 | .25297 | 234,8 | .74703 |
| .182 | .26247 | 241,3 | .00715 | 7,8 | .25531 | 233,4 | .74469 |
| .183 | .26487 | 240,0 | .00723 | 7,9 | .25764 | 232,1 | .74236 |
| .184 | .26727 | 238,7 | .00731 | 7,9 | .25996 | 230,8 | .74004 |
| 0.185 | 9.26965 | 237,4 | 0.00739 | 7,9 | 9.26226 | 229,5 | 0.73774 |
| .186 | .27201 | 236,2 | .00747 | 8,0 | .26454 | 228,2 | .73546 |
| .187 | .27437 | 234,9 | .00755 | 8,0 | .26682 | 226,9 | .73318 |
| .188 | .27671 | 233,7 | .00763 | 8,1 | .26908 | 225,7 | .73092 |
| .189 | .27904 | 232,5 | .00771 | 8,1 | .27133 | 224,4 | .72867 |
| 0.190 | 9.28136 | 231,3 | 0.00779 | 8,2 | 9.27357 | 223,2 | 0.72643 |
| .191 | .28367 | 230,1 | .00787 | 8,2 | .27580 | 221,9 | .72420 |
| .192 | .28597 | 229,0 | .00796 | 8,2 | .27801 | 220,7 | .72199 |
| .193 | .28825 | 227,8 | .00804 | 8,3 | .28021 | 219,5 | .71979 |
| .194 | .29052 | 226,7 | .00812 | 8,3 | .28240 | 218,3 | .71760 |
| 0.195 | 9.29278 | 225,5 | 0.00821 | 8,4 | 9.28458 | 217,2 | 0.71542 |
| .196 | .29503 | 224,4 | .00829 | 8,4 | .28674 | 216,0 | .71326 |
| .197 | .29727 | 223,3 | .00837 | 8,4 | .28890 | 214,9 | .71110 |
| .198 | .29950 | 222,2 | .00846 | 8,5 | .29104 | 213,7 | .70896 |
| .199 | .30172 | 221,1 | .00854 | 8,5 | .29317 | 212,6 | .70683 |
| 0.200 | 9.30392 | 220,0 | 0.00863 | 8,6 | 9.29529 | 211,5 | 0.70471 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log cose gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.200 | 9.30392 | 220,0 | 0.00863 | 8,6 | 9.29529 | 211,5 | 0.70471 |
| .201 | .30612 | 219,0 | .00871 | 8,6 | .29740 | 210,4 | .70260 |
| .202 | .30830 | 217,9 | .00880 | 8,7 | .29950 | 209,3 | .70050 |
| .203 | .31047 | 216,9 | .00889 | 8,7 | .30159 | 208,2 | .69841 |
| .204 | .31264 | 215,8 | .00897 | 8,7 | .30366 | 207,1 | .69634 |
| 0.205 | 9.31479 | 214,8 | 0.00906 | 8,8 | 9.30573 | 206,0 | 0.69427 |
| .206 | .31693 | 213,8 | .00915 | 8,8 | .30778 | 205,0 | .69222 |
| .207 | .31907 | 212,8 | .00924 | 8,9 | .30983 | 203,9 | .69017 |
| .208 | .32119 | 211,8 | .00933 | 8,9 | .31186 | 202,9 | .68814 |
| .209 | .32330 | 210,8 | .00942 | 8,9 | .31389 | 201,9 | .68611 |
| 0.210 | 9.32541 | 209,8 | 0.00951 | 9,0 | 9.31590 | 200,8 | 0.68410 |
| .211 | .32750 | 208,9 | .00960 | 9,0 | .31790 | 199,8 | .68210 |
| .212 | .32958 | 207,9 | .00969 | 9,1 | .31990 | 198,8 | .68010 |
| .213 | .33166 | 207,0 | .00978 | 9,1 | .32188 | 197,9 | .67812 |
| .214 | .33372 | 206,0 | .00987 | 9,2 | .32385 | 196,9 | .67615 |
| 0.215 | 9.33578 | 205,1 | 0.00996 | 9,2 | 9.32582 | 195,9 | 0.67418 |
| .216 | .33783 | 204,2 | .01005 | 9,2 | .32777 | 194,9 | .67223 |
| .217 | .33986 | 203,3 | .01015 | 9,3 | .32972 | 194,0 | .67028 |
| .218 | .34189 | 202,4 | .01024 | 9,3 | .33165 | 193,0 | .66835 |
| .219 | .34391 | 201,5 | .01033 | 9,4 | .33358 | 192,1 | .66642 |
| 0.220 | 9.34592 | 200,6 | 0.01043 | 9,4 | 9.33549 | 191,2 | 0.66451 |
| .221 | .34792 | 199,7 | .01052 | 9,4 | .33740 | 190,3 | .66260 |
| .222 | .34991 | 198,8 | .01062 | 9,5 | .33930 | 189,3 | .66070 |
| .223 | .35190 | 198,0 | .01071 | 9,5 | .34119 | 188,4 | .65881 |
| .224 | .35387 | 197,1 | .01081 | 9,6 | .34307 | 187,5 | .65693 |
| 0.225 | 9.35584 | 196,3 | 0.01090 | 9,6 | 9.34494 | 186,7 | 0.65506 |
| .226 | .35780 | 195,4 | .01100 | 9,7 | .34680 | 185,8 | .65320 |
| .227 | .35975 | 194,6 | .01109 | 9,7 | .34865 | 184,9 | .65135 |
| .228 | .36169 | 193,8 | .01119 | 9,7 | .35050 | 184,0 | .64950 |
| .229 | .36362 | 193,0 | .01129 | 9,8 | .35234 | 183,2 | .64766 |
| 0.230 | 9.36555 | 192,1 | 0.01139 | 9,8 | 9.35416 | 182,3 | 0.64584 |
| .231 | .36747 | 191,3 | .01149 | 9,9 | .35598 | 181,5 | .64402 |
| .232 | .36938 | 190,5 | .01158 | 9,9 | .35779 | 180,6 | .64221 |
| .233 | .37128 | 189,8 | .01168 | 9,9 | .35959 | 179,8 | .64041 |
| .234 | .37317 | 189,0 | .01178 | 10,0 | .36139 | 179,0 | .63861 |
| 0.235 | 9.37506 | 188,2 | 0.01188 | 10,0 | 9.36317 | 178,2 | 0.63683 |
| .236 | .37694 | 187,4 | .01198 | 10,1 | .36495 | 177,4 | .63505 |
| .237 | .37881 | 186,7 | .01208 | 10,1 | .36672 | 176,6 | .63328 |
| .238 | .38067 | 185,9 | .01219 | 10,1 | .36848 | 175,8 | .63152 |
| .239 | .38252 | 185,2 | .01229 | 10,2 | .37024 | 175,0 | .62976 |
| 0.240 | 9.38437 | 184,4 | 0.01239 | 10,2 | 9.37198 | 174,2 | 0.62802 |
| .241 | .38621 | 183,7 | .01249 | 10,3 | .37372 | 173,4 | .62628 |
| .242 | .38805 | 183,0 | .01259 | 10,3 | .37545 | 172,6 | .62455 |
| .243 | .38987 | 182,2 | .01270 | 10,4 | .37717 | 171,9 | .62283 |
| .244 | .39169 | 181,5 | .01280 | 10,4 | .37889 | 171,1 | .62111 |
| 0.245 | 9.39350 | 180,8 | 0.01291 | 10,4 | 9.38060 | 170,4 | 0.61940 |
| .246 | .39531 | 180,1 | .01301 | 10,5 | .38230 | 169,6 | .61770 |
| .247 | .39710 | 179,4 | .01312 | 10,5 | .38399 | 168,9 | .61601 |
| .248 | .39889 | 178,7 | .01322 | 10,6 | .38567 | 168,1 | .61433 |
| .249 | .40068 | 178,0 | .01333 | 10,6 | .38735 | 167,4 | .61265 |
| 0.250 | 9.40245 | 177,3 | 0.01343 | 10,6 | 9.38902 | 166,7 | 0.61098 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.250 | 9.40245 | 177.3 | 0.01343 | 10.6 | 9.38902 | 166.7 | 0.61098 |
| .251 | .40422 | 176.6 | .01354 | 10.7 | .39069 | 166.0 | .60931 |
| .252 | .40599 | 176.0 | .01365 | 10.7 | .39234 | 165.3 | .60766 |
| .253 | .40774 | 175.3 | .01375 | 10.8 | .39399 | 164.5 | .60601 |
| .254 | .40949 | 174.6 | .01386 | 10.8 | .39563 | 163.8 | .60437 |
| 0.255 | 9.41124 | 174.0 | 0.01397 | 10.8 | 9.39727 | 163.1 | 0.60273 |
| .256 | .41297 | 173.3 | .01408 | 10.9 | .39890 | 162.5 | .60110 |
| .257 | .41470 | 172.7 | .01419 | 10.9 | .40052 | 161.8 | .59948 |
| .258 | .41643 | 172.0 | .01430 | 11.0 | .40213 | 161.1 | .59787 |
| .259 | .41814 | 171.4 | .01441 | 11.0 | .40374 | 160.4 | .59626 |
| 0.260 | 9.41986 | 170.8 | 0.01452 | 11.0 | 9.40534 | 159.7 | 0.59466 |
| .261 | .42156 | 170.2 | .01463 | 11.1 | .40693 | 159.1 | .59307 |
| .262 | .42326 | 169.5 | .01474 | 11.1 | .40852 | 158.4 | .59148 |
| .263 | .42495 | 168.9 | .01485 | 11.2 | .41010 | 157.8 | .58990 |
| .264 | .42664 | 168.3 | .01496 | 11.2 | .41168 | 157.1 | .58832 |
| 0.265 | 9.42832 | 167.7 | 0.01507 | 11.2 | 9.41324 | 156.5 | 0.58676 |
| .266 | .42999 | 167.1 | .01519 | 11.3 | .41480 | 155.8 | .58520 |
| .267 | .43166 | 166.5 | .01530 | 11.3 | .41636 | 155.2 | .58364 |
| .268 | .43332 | 165.9 | .01541 | 11.4 | .41791 | 154.5 | .58209 |
| .269 | .43498 | 165.3 | .01553 | 11.4 | .41945 | 153.9 | .58055 |
| 0.270 | 9.43663 | 164.7 | 0.01564 | 11.4 | 9.42099 | 153.3 | 0.57901 |
| .271 | .43827 | 164.2 | .01576 | 11.5 | .42252 | 152.7 | .57748 |
| .272 | .43991 | 163.6 | .01587 | 11.5 | .42404 | 152.1 | .57596 |
| .273 | .44154 | 163.0 | .01599 | 11.6 | .42556 | 151.4 | .57444 |
| .274 | .44317 | 162.4 | .01610 | 11.6 | .42707 | 150.8 | .57293 |
| 0.275 | 9.44479 | 161.9 | 0.01622 | 11.7 | 9.42857 | 150.2 | 0.57143 |
| .276 | .44641 | 161.3 | .01634 | 11.7 | .43007 | 149.6 | .56993 |
| .277 | .44802 | 160.8 | .01645 | 11.7 | .43157 | 149.0 | .56843 |
| .278 | .44962 | 160.2 | .01657 | 11.8 | .43305 | 148.5 | .56695 |
| .279 | .45122 | 159.7 | .01669 | 11.8 | .43454 | 147.9 | .56546 |
| 0.280 | 9.45282 | 159.1 | 0.01681 | 11.9 | 9.43601 | 147.3 | 0.56399 |
| .281 | .45441 | 158.6 | .01693 | 11.9 | .43748 | 146.7 | .56252 |
| .282 | .45599 | 158.1 | .01704 | 11.9 | .43895 | 146.1 | .56105 |
| .283 | .45757 | 157.5 | .01716 | 12.0 | .44040 | 145.6 | .55960 |
| .284 | .45914 | 157.0 | .01728 | 12.0 | .44186 | 145.0 | .55814 |
| 0.285 | 9.46071 | 156.5 | 0.01740 | 12.1 | 9.44330 | 144.4 | 0.55670 |
| .286 | .46227 | 156.0 | .01752 | 12.1 | .44475 | 143.9 | .55525 |
| .287 | .46383 | 155.5 | .01765 | 12.1 | .44618 | 143.3 | .55382 |
| .288 | .46538 | 154.9 | .01777 | 12.2 | .44761 | 142.8 | .55239 |
| .289 | .46693 | 154.4 | .01789 | 12.2 | .44904 | 142.2 | .55096 |
| 0.290 | 9.46847 | 153.9 | 0.01801 | 12.3 | 9.45046 | 141.7 | 0.54954 |
| .291 | .47001 | 153.4 | .01813 | 12.3 | .45187 | 141.1 | .54813 |
| .292 | .47154 | 152.9 | .01826 | 12.3 | .45328 | 140.6 | .54672 |
| .293 | .47306 | 152.4 | .01838 | 12.4 | .45468 | 140.1 | .54532 |
| .294 | .47459 | 152.0 | .01851 | 12.4 | .45608 | 139.5 | .54392 |
| 0.295 | 9.47610 | 151.5 | 0.01863 | 12.5 | 9.45747 | 139.0 | 0.54253 |
| .296 | .47762 | 151.0 | .01875 | 12.5 | .45886 | 138.5 | .54114 |
| .297 | .47912 | 150.5 | .01888 | 12.5 | .46024 | 138.0 | .53976 |
| .298 | .48063 | 150.0 | .01900 | 12.6 | .46162 | 137.5 | .53838 |
| .299 | .48212 | 149.6 | .01913 | 12.6 | .46299 | 136.9 | .53701 |
| 0.300 | 9.48362 | 149.1 | 0.01926 | 12.7 | 9.46436 | 136.4 | 0.53564 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.300 | 9.48362 | 149.1 | 0.01926 | 12.7 | 9.46436 | 136.4 | 0.53564 |
| .301 | .48510 | 148.6 | .01938 | 12.7 | .46572 | 135.9 | .53428 |
| .302 | .48659 | 148.2 | .01951 | 12.7 | .46708 | 135.4 | .53292 |
| .303 | .48807 | 147.7 | .01964 | 12.8 | .46843 | 134.9 | .53157 |
| .304 | .48954 | 147.2 | .01977 | 12.8 | .46978 | 134.4 | .53022 |
| 0.305 | 9.49101 | 146.8 | 0.01989 | 12.8 | 9.47112 | 133.9 | 0.52888 |
| .306 | .49248 | 146.3 | .02002 | 12.9 | .47245 | 133.4 | .52755 |
| .307 | .49394 | 145.9 | .02015 | 12.9 | .47379 | 133.0 | .52621 |
| .308 | .49540 | 145.4 | .02028 | 13.0 | .47511 | 132.5 | .52489 |
| .309 | .49685 | 145.0 | .02041 | 13.0 | .47644 | 132.0 | .52356 |
| 0.310 | 9.49830 | 144.6 | 0.02054 | 13.0 | 9.47775 | 131.5 | 0.52225 |
| .311 | .49974 | 144.1 | .02067 | 13.1 | .47907 | 131.0 | .52093 |
| .312 | .50118 | 143.7 | .02080 | 13.1 | .48037 | 130.6 | .51963 |
| .313 | .50261 | 143.3 | .02094 | 13.2 | .48168 | 130.1 | .51832 |
| .314 | .50404 | 142.8 | .02107 | 13.2 | .48298 | 129.6 | .51702 |
| 0.315 | 9.50547 | 142.4 | 0.02120 | 13.2 | 9.48427 | 129.2 | 0.51573 |
| .316 | .50689 | 142.0 | .02133 | 13.3 | .48556 | 128.7 | .51444 |
| .317 | .50831 | 141.6 | .02146 | 13.3 | .48684 | 128.2 | .51316 |
| .318 | .50972 | 141.1 | .02160 | 13.4 | .48812 | 127.8 | .51188 |
| .319 | .51113 | 140.7 | .02173 | 13.4 | .48940 | 127.3 | .51060 |
| 0.320 | 9.51254 | 140.3 | 0.02187 | 13.4 | 9.49067 | 126.9 | 0.50933 |
| .321 | .51394 | 139.9 | .02200 | 13.5 | .49194 | 126.4 | .50806 |
| .322 | .51534 | 139.5 | .02214 | 13.5 | .49320 | 126.0 | .50680 |
| .323 | .51673 | 139.1 | .02227 | 13.6 | .49446 | 125.5 | .50554 |
| .324 | .51812 | 138.7 | .02241 | 13.6 | .49571 | 125.1 | .50429 |
| 0.325 | 9.51950 | 138.3 | 0.02254 | 13.6 | 9.49696 | 124.7 | 0.50304 |
| .326 | .52088 | 137.9 | .02268 | 13.7 | .49820 | 124.2 | .50180 |
| .327 | .52226 | 137.5 | .02282 | 13.7 | .49944 | 123.8 | .50056 |
| .328 | .52363 | 137.1 | .02295 | 13.8 | .50068 | 123.4 | .49932 |
| .329 | .52500 | 136.7 | .02309 | 13.8 | .50191 | 122.9 | .49809 |
| 0.330 | 9.52637 | 136.3 | 0.02323 | 13.8 | 9.50314 | 122.5 | 0.49686 |
| .331 | .52773 | 136.0 | .02337 | 13.9 | .50436 | 122.1 | .49564 |
| .332 | .52909 | 135.6 | .02351 | 13.9 | .50558 | 121.7 | .49442 |
| .333 | .53044 | 135.2 | .02365 | 14.0 | .50679 | 121.3 | .49321 |
| .334 | .53179 | 134.8 | .02379 | 14.0 | .50800 | 120.8 | .49200 |
| 0.335 | 9.53314 | 134.5 | 0.02393 | 14.0 | 9.50921 | 120.4 | 0.49079 |
| .336 | .53448 | 134.1 | .02407 | 14.1 | .51041 | 120.0 | .48959 |
| .337 | .53582 | 133.7 | .02421 | 14.1 | .51161 | 119.6 | .48839 |
| .338 | .53715 | 133.3 | .02435 | 14.1 | .51281 | 119.2 | .48719 |
| .339 | .53849 | 133.0 | .02449 | 14.2 | .51400 | 118.8 | .48600 |
| 0.340 | 9.53981 | 132.6 | 0.02463 | 14.2 | 9.51518 | 118.4 | 0.48482 |
| .341 | .54114 | 132.3 | .02478 | 14.3 | .51636 | 118.0 | .48364 |
| .342 | .54246 | 131.9 | .02492 | 14.3 | .51754 | 117.6 | .48246 |
| .343 | .54378 | 131.5 | .02506 | 14.3 | .51872 | 117.2 | .48128 |
| .344 | .54509 | 131.2 | .02520 | 14.4 | .51989 | 116.8 | .48011 |
| 0.345 | 9.54640 | 130.8 | 0.02535 | 14.4 | 9.52105 | 116.4 | 0.47895 |
| .346 | .54771 | 130.5 | .02549 | 14.5 | .52221 | 116.0 | .47779 |
| .347 | .54901 | 130.1 | .02564 | 14.5 | .52337 | 115.7 | .47663 |
| .348 | .55031 | 129.8 | .02578 | 14.5 | .52453 | 115.3 | .47547 |
| .349 | .55161 | 129.5 | .02593 | 14.6 | .52568 | 114.9 | .47432 |
| 0.350 | 9.55290 | 129.1 | 0.02607 | 14.6 | 9.52682 | 114.5 | 0.47318 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.350 | 9.55290 | 129,1 | 0.02607 | 14,6 | 9.52682 | 114,5 | 0.47318 |
| .351 | .55419 | 128,8 | .02622 | 14,6 | .52797 | 114,1 | .47203 |
| .352 | .55547 | 128,4 | .02637 | 14,7 | .52911 | 113,7 | .47089 |
| .353 | .55676 | 128,1 | .02651 | 14,7 | .53024 | 113,4 | .46976 |
| .354 | .55804 | 127,8 | .02666 | 14,8 | .53137 | 113,0 | .46863 |
| 0.355 | 9.55931 | 127,4 | 0.02681 | 14,8 | 9.53250 | 112,6 | 0.46750 |
| .356 | .56059 | 127,1 | .02696 | 14,8 | .53363 | 112,3 | .46637 |
| .357 | .56185 | 126,8 | .02711 | 14,9 | .53475 | 111,9 | .46525 |
| .358 | .56312 | 126,5 | .02726 | 14,9 | .53586 | 111,5 | .46414 |
| .359 | .56438 | 126,1 | .02740 | 15,0 | .53698 | 111,2 | .46302 |
| 0.360 | 9.56564 | 125,8 | 0.02755 | 15,0 | 9.53809 | 110,8 | 0.46191 |
| .361 | .56690 | 125,5 | .02770 | 15,0 | .53919 | 110,5 | .46081 |
| .362 | .56815 | 125,2 | .02786 | 15,1 | .54030 | 110,1 | .45970 |
| .363 | .56940 | 124,8 | .02801 | 15,1 | .54140 | 109,7 | .45860 |
| .364 | .57065 | 124,5 | .02816 | 15,1 | .54249 | 109,4 | .45751 |
| 0.365 | 9.57189 | 124,2 | 0.02831 | 15,2 | 9.54358 | 109,0 | 0.45642 |
| .366 | .57313 | 123,9 | .02846 | 15,2 | .54467 | 108,7 | .45533 |
| .367 | .57437 | 123,6 | .02861 | 15,3 | .54576 | 108,3 | .45424 |
| .368 | .57561 | 123,3 | .02877 | 15,3 | .54684 | 108,0 | .45316 |
| .369 | .57684 | 123,0 | .02892 | 15,3 | .54792 | 107,7 | .45208 |
| 0.370 | 9.57807 | 122,7 | 0.02907 | 15,4 | 9.54899 | 107,3 | 0.45101 |
| .371 | .57929 | 122,4 | .02923 | 15,4 | .55006 | 107,0 | .44994 |
| .372 | .58051 | 122,1 | .02938 | 15,4 | .55113 | 106,6 | .44887 |
| .373 | .58173 | 121,8 | .02954 | 15,5 | .55220 | 106,3 | .44780 |
| .374 | .58295 | 121,5 | .02969 | 15,5 | .55326 | 106,0 | .44674 |
| 0.375 | 9.58416 | 121,2 | 0.02985 | 15,6 | 9.55432 | 105,6 | 0.44568 |
| .376 | .58537 | 120,9 | .03000 | 15,6 | .55537 | 105,3 | .44463 |
| .377 | .58658 | 120,6 | .03016 | 15,6 | .55642 | 105,0 | .44358 |
| .378 | .58779 | 120,3 | .03031 | 15,7 | .55747 | 104,6 | .44253 |
| .379 | .58899 | 120,0 | .03047 | 15,7 | .55852 | 104,3 | .44148 |
| 0.380 | 9.59019 | 119,7 | 0.03063 | 15,8 | 9.55956 | 104,0 | 0.44044 |
| .381 | .59138 | 119,5 | .03079 | 15,8 | .56059 | 103,7 | .43941 |
| .382 | .59257 | 119,2 | .03095 | 15,8 | .56163 | 103,3 | .43837 |
| .383 | .59377 | 118,9 | .03110 | 15,9 | .56266 | 103,0 | .43734 |
| .384 | .59495 | 118,6 | .03126 | 15,9 | .56369 | 102,7 | .43631 |
| 0.385 | 9.59614 | 118,3 | 0.03142 | 15,9 | 9.56472 | 102,4 | 0.43528 |
| .386 | .59732 | 118,0 | .03158 | 16,0 | .56574 | 102,1 | .43426 |
| .387 | .59850 | 117,8 | .03174 | 16,0 | .56676 | 101,8 | .43324 |
| .388 | .59967 | 117,5 | .03190 | 16,1 | .56777 | 101,4 | .43223 |
| .389 | .60085 | 117,2 | .03206 | 16,1 | .56879 | 101,1 | .43121 |
| 0.390 | 9.60202 | 116,9 | 0.03222 | 16,1 | 9.56980 | 100,8 | 0.43020 |
| .391 | .60319 | 116,7 | .03238 | 16,2 | .57080 | 100,5 | .42920 |
| .392 | .60435 | 116,4 | .03255 | 16,2 | .57181 | 100,2 | .42819 |
| .393 | .60551 | 116,1 | .03271 | 16,2 | .57281 | 99,9 | .42719 |
| .394 | .60668 | 115,9 | .03287 | 16,3 | .57380 | 99,6 | .42620 |
| 0.395 | 9.60783 | 115,6 | 0.03303 | 16,3 | 9.57480 | 99,3 | 0.42520 |
| .396 | .60899 | 115,3 | .03320 | 16,4 | .57579 | 99,0 | .42421 |
| .397 | .61014 | 115,1 | .03336 | 16,4 | .57678 | 98,7 | .42322 |
| .398 | .61129 | 114,8 | .03353 | 16,4 | .57776 | 98,4 | .42224 |
| .399 | .61244 | 114,6 | .03369 | 16,5 | .57875 | 98,1 | .42125 |
| 0.400 | 9.61358 | 114,3 | 0.03385 | 16,5 | 9.57973 | 97,8 | 0.42027 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.400 | 9.61358 | 114,3 | 0.03385 | 16,5 | 9.57973 | 97,8 | 0.42027 |
| .401 | .61472 | 114,0 | .03402 | 16,5 | .58070 | 97,5 | .41930 |
| .402 | .61586 | 113,8 | .03419 | 16,6 | .58168 | 97,2 | .41832 |
| .403 | .61700 | 113,5 | .03435 | 16,6 | .58265 | 96,9 | .41735 |
| .404 | .61813 | 113,3 | .03452 | 16,6 | .58361 | 96,6 | .41639 |
| 0.405 | 9.61926 | 113,0 | 0.03468 | 16,7 | 9.58458 | 96,3 | 0.41542 |
| .406 | .62039 | 112,8 | .03485 | 16,7 | .58554 | 96,1 | .41446 |
| .407 | .62152 | 112,5 | .03502 | 16,8 | .58650 | 95,8 | .41350 |
| .408 | .62264 | 112,3 | .03519 | 16,8 | .58746 | 95,5 | .41254 |
| .409 | .62376 | 112,0 | .03535 | 16,8 | .58841 | 95,2 | .41159 |
| 0.410 | 9.62488 | 111,8 | 0.03552 | 16,9 | 9.58936 | 94,9 | 0.41064 |
| .411 | .62600 | 111,6 | .03569 | 16,9 | .59031 | 94,6 | .40969 |
| .412 | .62711 | 111,3 | .03586 | 16,9 | .59125 | 94,4 | .40875 |
| .413 | .62823 | 111,1 | .03603 | 17,0 | .59220 | 94,1 | .40780 |
| .414 | .62934 | 110,8 | .03620 | 17,0 | .59314 | 93,8 | .40686 |
| 0.415 | 9.63044 | 110,6 | 0.03637 | 17,1 | 9.59407 | 93,5 | 0.40593 |
| .416 | .63155 | 110,4 | .03654 | 17,1 | .59501 | 93,3 | .40499 |
| .417 | .63265 | 110,1 | .03671 | 17,1 | .59594 | 93,0 | .40406 |
| .418 | .63375 | 109,9 | .03688 | 17,2 | .59687 | 92,7 | .40313 |
| .419 | .63485 | 109,6 | .03706 | 17,2 | .59779 | 92,4 | .40221 |
| 0.420 | 9.63594 | 109,4 | 0.03723 | 17,2 | 9.59871 | 92,2 | 0.40129 |
| .421 | .63704 | 109,2 | .03740 | 17,3 | .59963 | 91,9 | .40037 |
| .422 | .63813 | 109,0 | .03757 | 17,3 | .60055 | 91,6 | .39945 |
| .423 | .63922 | 108,7 | .03775 | 17,3 | .60147 | 91,4 | .39853 |
| .424 | .64030 | 108,5 | .03792 | 17,4 | .60238 | 91,1 | .39762 |
| 0.425 | 9.64139 | 108,3 | 0.03810 | 17,4 | 9.60329 | 90,8 | 0.39671 |
| .426 | .64247 | 108,0 | .03827 | 17,5 | .60420 | 90,6 | .39580 |
| .427 | .64355 | 107,8 | .03844 | 17,5 | .60510 | 90,3 | .39490 |
| .428 | .64462 | 107,6 | .03862 | 17,5 | .60600 | 90,1 | .39400 |
| .429 | .64570 | 107,4 | .03880 | 17,6 | .60690 | 89,8 | .39310 |
| 0.430 | 9.64677 | 107,1 | 0.03897 | 17,6 | 9.60780 | 89,6 | 0.39220 |
| .431 | .64784 | 106,9 | .03915 | 17,6 | .60869 | 89,3 | .39131 |
| .432 | .64891 | 106,7 | .03932 | 17,7 | .60959 | 89,0 | .39041 |
| .433 | .64997 | 106,5 | .03950 | 17,7 | .61047 | 88,8 | .38953 |
| .434 | .65104 | 106,3 | .03968 | 17,7 | .61136 | 88,5 | .38864 |
| 0.435 | 9.65210 | 106,0 | 0.03986 | 17,8 | 9.61224 | 88,3 | 0.38776 |
| .436 | .65316 | 105,8 | .04003 | 17,8 | .61313 | 88,0 | .38687 |
| .437 | .65422 | 105,6 | .04021 | 17,9 | .61401 | 87,8 | .38599 |
| .438 | .65527 | 105,4 | .04039 | 17,9 | .61488 | 87,5 | .38512 |
| .439 | .65633 | 105,2 | .04057 | 17,9 | .61576 | 87,3 | .38424 |
| 0.440 | 9.65738 | 105,0 | 0.04075 | 18,0 | 9.61663 | 87,0 | 0.38337 |
| .441 | .65843 | 104,8 | .04093 | 18,0 | .61750 | 86,8 | .38250 |
| .442 | .65947 | 104,6 | .04111 | 18,0 | .61836 | 86,5 | .38164 |
| .443 | .66052 | 104,4 | .04129 | 18,1 | .61923 | 86,3 | .38077 |
| .444 | .66156 | 104,2 | .04147 | 18,1 | .62009 | 86,1 | .37991 |
| 0.445 | 9.66260 | 104,0 | 0.04165 | 18,1 | 9.62095 | 85,8 | 0.37905 |
| .446 | .66364 | 103,7 | .04183 | 18,2 | .62180 | 85,6 | .37820 |
| .447 | .66468 | 103,5 | .04202 | 18,2 | .62266 | 85,3 | .37734 |
| .448 | .66571 | 103,3 | .04220 | 18,3 | .62351 | 85,1 | .37649 |
| .449 | .66674 | 103,1 | .04238 | 18,3 | .62436 | 84,9 | .37564 |
| 0.450 | 9.66777 | 102,9 | 0.04256 | 18,3 | 9.62521 | 84,6 | 0.37479 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.450 | 9.66777 | 102.9 | 0.04256 | 18.3 | 9.62521 | 84.6 | 0.37479 |
| .451 | .66880 | 102.7 | .04275 | 18.4 | .62605 | 84.4 | .37395 |
| .452 | .66983 | 102.5 | .04293 | 18.4 | .62690 | 84.1 | .37310 |
| .453 | .67085 | 102.3 | .04312 | 18.4 | .62774 | 83.9 | .37226 |
| .454 | .67187 | 102.1 | .04330 | 18.5 | .62857 | 83.7 | .37143 |
| 0.455 | 9.67289 | 101.9 | 0.04348 | 18.5 | 9.62941 | 83.4 | 0.37059 |
| .456 | .67391 | 101.8 | .04367 | 18.5 | .63024 | 83.2 | .36976 |
| .457 | .67493 | 101.6 | .04385 | 18.6 | .63107 | 83.0 | .36893 |
| .458 | .67594 | 101.4 | .04404 | 18.6 | .63190 | 82.8 | .36810 |
| .459 | .67696 | 101.2 | .04423 | 18.6 | .63273 | 82.5 | .36727 |
| 0.460 | 9.67797 | 101.0 | 0.04441 | 18.7 | 9.63355 | 82.3 | 0.36645 |
| .461 | .67898 | 100.8 | .04460 | 18.7 | .63438 | 82.1 | .36562 |
| .462 | .67998 | 100.6 | .04479 | 18.7 | .63519 | 81.8 | .36481 |
| .463 | .68099 | 100.4 | .04498 | 18.8 | .63601 | 81.6 | .36399 |
| .464 | .68199 | 100.2 | .04516 | 18.8 | .63683 | 81.4 | .36317 |
| 0.465 | 9.68299 | 100.0 | 0.04535 | 18.9 | 9.63764 | 81.2 | 0.36236 |
| .466 | .68399 | 99.8 | .04554 | 18.9 | .63845 | 81.0 | .36155 |
| .467 | .68499 | 99.7 | .04573 | 18.9 | .63926 | 80.7 | .36074 |
| .468 | .68599 | 99.5 | .04592 | 19.0 | .64007 | 80.5 | .35993 |
| .469 | .68698 | 99.3 | .04611 | 19.0 | .64087 | 80.3 | .35913 |
| 0.470 | 9.68797 | 99.1 | 0.04630 | 19.0 | 9.64167 | 80.1 | 0.35833 |
| .471 | .68896 | 98.9 | .04649 | 19.1 | .64247 | 79.9 | .35753 |
| .472 | .68995 | 98.7 | .04668 | 19.1 | .64327 | 79.6 | .35673 |
| .473 | .69094 | 98.6 | .04687 | 19.1 | .64406 | 79.4 | .35594 |
| .474 | .69192 | 98.4 | .04706 | 19.2 | .64486 | 79.2 | .35514 |
| 0.475 | 9.69290 | 98.2 | 0.04726 | 19.2 | 9.64565 | 79.0 | 0.35435 |
| .476 | .69388 | 98.0 | .04745 | 19.2 | .64644 | 78.8 | .35356 |
| .477 | .69486 | 97.8 | .04764 | 19.3 | .64722 | 78.6 | .35278 |
| .478 | .69584 | 97.7 | .04783 | 19.3 | .64801 | 78.4 | .35199 |
| .479 | .69682 | 97.5 | .04803 | 19.3 | .64879 | 78.2 | .35121 |
| 0.480 | 9.69779 | 97.3 | 0.04822 | 19.4 | 9.64957 | 77.9 | 0.35043 |
| .481 | .69876 | 97.1 | .04841 | 19.4 | .65035 | 77.7 | .34965 |
| .482 | .69973 | 97.0 | .04861 | 19.4 | .65113 | 77.5 | .34887 |
| .483 | .70070 | 96.8 | .04880 | 19.5 | .65190 | 77.3 | .34810 |
| .484 | .70167 | 96.6 | .04900 | 19.5 | .65267 | 77.1 | .34733 |
| 0.485 | 9.70264 | 96.5 | 0.04919 | 19.6 | 9.65344 | 76.9 | 0.34656 |
| .486 | .70360 | 96.3 | .04939 | 19.6 | .65421 | 76.7 | .34579 |
| .487 | .70456 | 96.1 | .04959 | 19.6 | .65498 | 76.5 | .34502 |
| .488 | .70552 | 95.9 | .04978 | 19.7 | .65574 | 76.3 | .34426 |
| .489 | .70648 | 95.8 | .04998 | 19.7 | .65650 | 76.1 | .34350 |
| 0.490 | 9.70744 | 95.6 | 0.05018 | 19.7 | 9.65726 | 75.9 | 0.34274 |
| .491 | .70839 | 95.4 | .05037 | 19.8 | .65802 | 75.7 | .34198 |
| .492 | .70935 | 95.3 | .05057 | 19.8 | .65878 | 75.5 | .34122 |
| .493 | .71030 | 95.1 | .05077 | 19.8 | .65953 | 75.3 | .34047 |
| .494 | .71125 | 95.0 | .05097 | 19.9 | .66028 | 75.1 | .33972 |
| 0.495 | 9.71220 | 94.8 | 0.05117 | 19.9 | 9.66103 | 74.9 | 0.33897 |
| .496 | .71315 | 94.6 | .05137 | 19.9 | .66178 | 74.7 | .33822 |
| .497 | .71409 | 94.5 | .05156 | 20.0 | .66253 | 74.5 | .33747 |
| .498 | .71503 | 94.3 | .05176 | 20.0 | .66327 | 74.3 | .33673 |
| .499 | .71598 | 94.1 | .05196 | 20.0 | .66401 | 74.1 | .33599 |
| 0.500 | 9.71692 | 94.0 | 0.05217 | 20.1 | 9.66475 | 73.9 | 0.33525 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.500 | 9.71602 | 94,0 | 0.05217 | 20,1 | 9.66475 | 73,9 | 0.33525 |
| .501 | .71786 | 93,8 | .05237 | 20,1 | .66549 | 73,7 | .33451 |
| .502 | .71879 | 93,7 | .05257 | 20,1 | .66623 | 73,5 | .33377 |
| .503 | .71973 | 93,5 | .05277 | 20,2 | .66696 | 73,3 | .33304 |
| .504 | .72066 | 93,3 | .05297 | 20,2 | .66769 | 73,1 | .33231 |
| 0.505 | 9.72160 | 93,2 | 0.05317 | 20,2 | 9.66842 | 72,9 | 0.33158 |
| .506 | .72253 | 93,0 | .05338 | 20,3 | .66915 | 72,8 | .33085 |
| .507 | .72346 | 92,9 | .05358 | 20,3 | .66988 | 72,6 | .33012 |
| .508 | .72438 | 92,7 | .05378 | 20,3 | .67060 | 72,4 | .32940 |
| .509 | .72531 | 92,6 | .05399 | 20,4 | .67133 | 72,2 | .32867 |
| 0.510 | 9.72624 | 92,4 | 0.05419 | 20,4 | 9.67205 | 72,0 | 0.32795 |
| .511 | .72716 | 92,3 | .05439 | 20,4 | .67277 | 71,8 | .32723 |
| .512 | .72808 | 92,1 | .05460 | 20,5 | .67348 | 71,6 | .32652 |
| .513 | .72900 | 92,0 | .05480 | 20,5 | .67420 | 71,5 | .32580 |
| .514 | .72992 | 91,8 | .05501 | 20,5 | .67491 | 71,3 | .32509 |
| 0.515 | 9.73084 | 91,7 | 0.05521 | 20,6 | 9.67562 | 71,1 | 0.32438 |
| .516 | .73175 | 91,5 | .05542 | 20,6 | .67633 | 70,9 | .32367 |
| .517 | .73267 | 91,4 | .05563 | 20,6 | .67704 | 70,7 | .32296 |
| .518 | .73358 | 91,2 | .05583 | 20,7 | .67775 | 70,5 | .32225 |
| .519 | .73449 | 91,1 | .05604 | 20,7 | .67845 | 70,3 | .32155 |
| 0.520 | 9.73540 | 90,9 | 0.05625 | 20,7 | 9.67916 | 70,2 | 0.32084 |
| .521 | .73631 | 90,8 | .05645 | 20,8 | .67986 | 70,0 | .32014 |
| .522 | .73722 | 90,6 | .05666 | 20,8 | .68056 | 69,8 | .31944 |
| .523 | .73812 | 90,5 | .05687 | 20,8 | .68125 | 69,6 | .31875 |
| .524 | .73903 | 90,3 | .05708 | 20,9 | .68195 | 69,5 | .31805 |
| 0.525 | 9.73993 | 90,2 | 0.05729 | 20,9 | 9.68264 | 69,3 | 0.31736 |
| .526 | .74083 | 90,0 | .05750 | 20,9 | .68333 | 69,1 | .31667 |
| .527 | .74173 | 89,9 | .05771 | 21,0 | .68402 | 68,9 | .31598 |
| .528 | .74263 | 89,8 | .05792 | 21,0 | .68471 | 68,7 | .31529 |
| .529 | .74353 | 89,6 | .05813 | 21,0 | .68540 | 68,6 | .31460 |
| 0.530 | 9.74442 | 89,5 | 0.05834 | 21,1 | 9.68608 | 68,4 | 0.31392 |
| .531 | .74532 | 89,3 | .05855 | 21,1 | .68677 | 68,2 | .31323 |
| .532 | .74621 | 89,2 | .05876 | 21,1 | .68745 | 68,0 | .31255 |
| .533 | .74710 | 89,1 | .05897 | 21,2 | .68813 | 67,9 | .31187 |
| .534 | .74799 | 88,9 | .05918 | 21,2 | .68880 | 67,7 | .31120 |
| 0.535 | 9.74888 | 88,8 | 0.05940 | 21,2 | 9.68948 | 67,5 | 0.31052 |
| .536 | .74976 | 88,6 | .05961 | 21,3 | .69016 | 67,4 | .30984 |
| .537 | .75065 | 88,5 | .05982 | 21,3 | .69083 | 67,2 | .30917 |
| .538 | .75153 | 88,4 | .06004 | 21,3 | .69150 | 67,0 | .30850 |
| .539 | .75242 | 88,2 | .06025 | 21,4 | .69217 | 66,9 | .30783 |
| 0.540 | 9.75330 | 88,1 | 0.06046 | 21,4 | 9.69284 | 66,7 | 0.30716 |
| .541 | .75418 | 88,0 | .06068 | 21,4 | .69350 | 66,5 | .30650 |
| .542 | .75506 | 87,8 | .06089 | 21,5 | .69417 | 66,3 | .30583 |
| .543 | .75594 | 87,7 | .06111 | 21,5 | .69483 | 66,2 | .30517 |
| .544 | .75681 | 87,6 | .06132 | 21,5 | .69549 | 66,0 | .30451 |
| 0.545 | 9.75769 | 87,4 | 0.06154 | 21,6 | 9.69615 | 65,9 | 0.30385 |
| .546 | .75856 | 87,3 | .06175 | 21,6 | .69681 | 65,7 | .30319 |
| .547 | .75943 | 87,2 | .06197 | 21,6 | .69746 | 65,5 | .30254 |
| .548 | .76030 | 87,0 | .06219 | 21,7 | .69812 | 65,4 | .30188 |
| .549 | .76117 | 86,9 | .06240 | 21,7 | .69877 | 65,2 | .30123 |
| 0.550 | 9.76204 | 86,8 | 0.06262 | 21,7 | 9.69942 | 65,0 | 0.30058 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.550 | 9.76204 | 86,8 | 0.06262 | 21,7 | 9.69942 | 65,0 | 0.30058 |
| .551 | .76291 | 86,6 | .06284 | 21,8 | .70007 | 64,9 | .29993 |
| .552 | .76377 | 86,5 | .06306 | 21,8 | .70072 | 64,7 | .29928 |
| .553 | .76464 | 86,4 | .06327 | 21,8 | .70137 | 64,5 | .29863 |
| .554 | .76550 | 86,3 | .06349 | 21,9 | .70201 | 64,4 | .29799 |
| 0.555 | 9.76636 | 86,1 | 0.06371 | 21,9 | 9.70265 | 64,2 | 0.29735 |
| .556 | .76722 | 86,0 | .06393 | 21,9 | .70329 | 64,1 | .29671 |
| .557 | .76808 | 85,9 | .06415 | 22,0 | .70393 | 63,9 | .29607 |
| .558 | .76894 | 85,7 | .06437 | 22,0 | .70457 | 63,7 | .29543 |
| .559 | .76980 | 85,6 | .06459 | 22,0 | .70521 | 63,6 | .29479 |
| 0.560 | 9.77065 | 85,5 | 0.06481 | 22,1 | 9.70584 | 63,4 | 0.29416 |
| .561 | .77151 | 85,4 | .06503 | 22,1 | .70648 | 63,3 | .29352 |
| .562 | .77236 | 85,2 | .06525 | 22,1 | .70711 | 63,1 | .29289 |
| .563 | .77321 | 85,1 | .06547 | 22,2 | .70774 | 63,0 | .29226 |
| .564 | .77406 | 85,0 | .06570 | 22,2 | .70837 | 62,8 | .29163 |
| 0.565 | 9.77491 | 84,9 | 0.06592 | 22,2 | 9.70900 | 62,7 | 0.29100 |
| .566 | .77576 | 84,8 | .06614 | 22,3 | .70962 | 62,5 | .29038 |
| .567 | .77661 | 84,6 | .06636 | 22,3 | .71025 | 62,3 | .28975 |
| .568 | .77745 | 84,5 | .06659 | 22,3 | .71087 | 62,2 | .28913 |
| .569 | .77830 | 84,4 | .06681 | 22,3 | .71149 | 62,0 | .28851 |
| 0.570 | 9.77914 | 84,3 | 0.06703 | 22,4 | 9.71211 | 61,9 | 0.28789 |
| .571 | .77998 | 84,2 | .06726 | 22,4 | .71273 | 61,7 | .28727 |
| .572 | .78083 | 84,0 | .06748 | 22,4 | .71334 | 61,6 | .28666 |
| .573 | .78167 | 83,9 | .06771 | 22,5 | .71396 | 61,4 | .28604 |
| .574 | .78250 | 83,8 | .06793 | 22,5 | .71457 | 61,3 | .28543 |
| 0.575 | 9.78334 | 83,7 | 0.06816 | 22,5 | 9.71519 | 61,1 | 0.28481 |
| .576 | .78418 | 83,6 | .06838 | 22,6 | .71580 | 61,0 | .28420 |
| .577 | .78501 | 83,4 | .06861 | 22,6 | .71641 | 60,8 | .28359 |
| .578 | .78585 | 83,3 | .06883 | 22,6 | .71701 | 60,7 | .28299 |
| .579 | .78668 | 83,2 | .06906 | 22,7 | .71762 | 60,5 | .28238 |
| 0.580 | 9.78751 | 83,1 | 0.06929 | 22,7 | 9.71822 | 60,4 | 0.28178 |
| .581 | .78834 | 83,0 | .06951 | 22,7 | .71883 | 60,2 | .28117 |
| .582 | .78917 | 82,9 | .06974 | 22,8 | .71943 | 60,1 | .28057 |
| .583 | .79000 | 82,7 | .06997 | 22,8 | .72003 | 60,0 | .27997 |
| .584 | .79082 | 82,6 | .07020 | 22,8 | .72063 | 59,8 | .27937 |
| 0.585 | 9.79165 | 82,5 | 0.07043 | 22,9 | 9.72123 | 59,7 | 0.27877 |
| .586 | .79247 | 82,4 | .07065 | 22,9 | .72182 | 59,5 | .27818 |
| .587 | .79330 | 82,3 | .07088 | 22,9 | .72242 | 59,4 | .27758 |
| .588 | .79412 | 82,2 | .07111 | 23,0 | .72301 | 59,2 | .27699 |
| .589 | .79494 | 82,1 | .07134 | 23,0 | .72360 | 59,1 | .27640 |
| 0.590 | 9.79576 | 82,0 | 0.07157 | 23,0 | 9.72419 | 58,9 | 0.27581 |
| .591 | .79658 | 81,8 | .07180 | 23,0 | .72478 | 58,8 | .27522 |
| .592 | .79740 | 81,7 | .07203 | 23,1 | .72537 | 58,7 | .27463 |
| .593 | .79822 | 81,6 | .07226 | 23,1 | .72595 | 58,5 | .27405 |
| .594 | .79903 | 81,5 | .07249 | 23,1 | .72654 | 58,4 | .27346 |
| 0.595 | 9.79985 | 81,4 | 0.07273 | 23,2 | 9.72712 | 58,2 | 0.27288 |
| .596 | .80066 | 81,3 | .07296 | 23,2 | .72770 | 58,1 | .27230 |
| .597 | .80147 | 81,2 | .07319 | 23,2 | .72828 | 58,0 | .27172 |
| .598 | .80228 | 81,1 | .07342 | 23,3 | .72886 | 57,8 | .27114 |
| .599 | .80309 | 81,0 | .07366 | 23,3 | .72944 | 57,7 | .27056 |
| 0.600 | 9.80390 | 80,9 | 0.07389 | 23,3 | 9.73001 | 57,5 | 0.26999 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.600 | 9.80390 | 80,9 | 0.07389 | 23,3 | 9.73001 | 57,5 | 0.26999 |
| .601 | .80471 | 80,8 | .07412 | 23,4 | .73059 | 57,4 | .26941 |
| .602 | .80552 | 80,7 | .07436 | 23,4 | .73116 | 57,3 | .26884 |
| .603 | .80632 | 80,5 | .07459 | 23,4 | .73173 | 57,1 | .26827 |
| .604 | .80713 | 80,4 | .07482 | 23,4 | .73231 | 57,0 | .26769 |
| 0.605 | 9.80793 | 80,3 | 0.07506 | 23,5 | 9.73287 | 56,9 | 0.26713 |
| .606 | .80874 | 80,2 | .07529 | 23,5 | .73344 | 56,7 | .26656 |
| .607 | .80954 | 80,1 | .07553 | 23,5 | .73401 | 56,6 | .26599 |
| .608 | .81034 | 80,0 | .07576 | 23,6 | .73457 | 56,5 | .26543 |
| .609 | .81114 | 79,9 | .07600 | 23,6 | .73514 | 56,3 | .26486 |
| 0.610 | 9.81194 | 79,8 | 0.07624 | 23,6 | 9.73570 | 56,2 | 0.26430 |
| .611 | .81273 | 79,7 | .07647 | 23,7 | .73626 | 56,0 | .26374 |
| .612 | .81353 | 79,6 | .07671 | 23,7 | .73682 | 55,9 | .26318 |
| .613 | .81433 | 79,5 | .07695 | 23,7 | .73738 | 55,8 | .26262 |
| .614 | .81512 | 79,4 | .07718 | 23,8 | .73794 | 55,7 | .26206 |
| 0.615 | 9.81591 | 79,3 | 0.07742 | 23,8 | 9.73849 | 55,5 | 0.26151 |
| .616 | .81671 | 79,2 | .07766 | 23,8 | .73905 | 55,4 | .26095 |
| .617 | .81750 | 79,1 | .07790 | 23,8 | .73960 | 55,3 | .26040 |
| .618 | .81829 | 79,0 | .07814 | 23,9 | .74015 | 55,1 | .25985 |
| .619 | .81908 | 78,9 | .07838 | 23,9 | .74070 | 55,0 | .25930 |
| 0.620 | 9.81987 | 78,8 | 0.07861 | 23,9 | 9.74125 | 54,9 | 0.25875 |
| .621 | .82065 | 78,7 | .07885 | 24,0 | .74180 | 54,7 | .25820 |
| .622 | .82144 | 78,6 | .07909 | 24,0 | .74235 | 54,6 | .25765 |
| .623 | .82223 | 78,5 | .07933 | 24,0 | .74289 | 54,5 | .25711 |
| .624 | .82301 | 78,4 | .07957 | 24,1 | .74344 | 54,3 | .25656 |
| 0.625 | 9.82380 | 78,3 | 0.07982 | 24,1 | 9.74398 | 54,2 | 0.25602 |
| .626 | .82458 | 78,2 | .08006 | 24,1 | .74452 | 54,1 | .25548 |
| .627 | .82536 | 78,1 | .08030 | 24,1 | .74506 | 54,0 | .25494 |
| .628 | .82614 | 78,0 | .08054 | 24,2 | .74560 | 53,8 | .25440 |
| .629 | .82692 | 77,9 | .08078 | 24,2 | .74614 | 53,7 | .25386 |
| 0.630 | 9.82770 | 77,8 | 0.08102 | 24,2 | 9.74667 | 53,6 | 0.25333 |
| .631 | .82848 | 77,7 | .08126 | 24,3 | .74721 | 53,5 | .25279 |
| .632 | .82925 | 77,6 | .08151 | 24,3 | .74774 | 53,3 | .25226 |
| .633 | .83003 | 77,5 | .08175 | 24,3 | .74828 | 53,2 | .25172 |
| .634 | .83080 | 77,4 | .08200 | 24,4 | .74881 | 53,1 | .25119 |
| 0.635 | 9.83158 | 77,3 | 0.08224 | 24,4 | 9.74934 | 53,0 | 0.25066 |
| .636 | .83235 | 77,3 | .08248 | 24,4 | .74987 | 52,8 | .25013 |
| .637 | .83312 | 77,2 | .08273 | 24,4 | .75040 | 52,7 | .24960 |
| .638 | .83389 | 77,1 | .08297 | 24,5 | .75092 | 52,6 | .24908 |
| .639 | .83466 | 77,0 | .08322 | 24,5 | .75145 | 52,5 | .24855 |
| 0.640 | 9.83543 | 76,9 | 0.08346 | 24,5 | 9.75197 | 52,3 | 0.24803 |
| .641 | .83620 | 76,8 | .08371 | 24,6 | .75249 | 52,2 | .24751 |
| .642 | .83697 | 76,7 | .08395 | 24,6 | .75302 | 52,1 | .24698 |
| .643 | .83774 | 76,6 | .08420 | 24,6 | .75354 | 52,0 | .24646 |
| .644 | .83850 | 76,5 | .08445 | 24,7 | .75406 | 51,9 | .24594 |
| 0.645 | 9.83927 | 76,4 | 0.08469 | 24,7 | 9.75457 | 51,7 | 0.24543 |
| .646 | .84003 | 76,3 | .08494 | 24,7 | .75509 | 51,6 | .24491 |
| .647 | .84079 | 76,2 | .08519 | 24,7 | .75561 | 51,5 | .24439 |
| .648 | .84155 | 76,1 | .08543 | 24,8 | .75612 | 51,4 | .24388 |
| .649 | .84232 | 76,1 | .08568 | 24,8 | .75663 | 51,3 | .24337 |
| 0.650 | 9.84308 | 76,0 | 0.08593 | 24,8 | 9.75715 | 51,1 | 0.24285 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.650 | 9.84308 | 76,0 | 0.08593 | 24,8 | 9.75715 | 51,1 | 0.24285 |
| .651 | .84383 | 75,9 | .08618 | 24,9 | .75766 | 51,0 | .24234 |
| .652 | .84459 | 75,8 | .08643 | 24,9 | .75817 | 50,9 | .24183 |
| .653 | .84535 | 75,7 | .08668 | 24,9 | .75867 | 50,8 | .24133 |
| .654 | .84611 | 75,6 | .08693 | 24,9 | .75918 | 50,7 | .24082 |
| 0.655 | 9.84686 | 75,5 | 0.08718 | 25,0 | 9.75969 | 50,6 | 0.24031 |
| .656 | .84762 | 75,4 | .08742 | 25,0 | .76019 | 50,4 | .23981 |
| .657 | .84837 | 75,4 | .08768 | 25,0 | .76070 | 50,3 | .23930 |
| .658 | .84912 | 75,3 | .08793 | 25,1 | .76120 | 50,2 | .23880 |
| .659 | .84988 | 75,2 | .08818 | 25,1 | .76170 | 50,1 | .23830 |
| 0.660 | 9.85063 | 75,1 | 0.08843 | 25,1 | 9.76220 | 50,0 | 0.23780 |
| .661 | .85138 | 75,0 | .08868 | 25,1 | .76270 | 49,9 | .23730 |
| .662 | .85213 | 74,9 | .08893 | 25,2 | .76320 | 49,7 | .23680 |
| .663 | .85288 | 74,8 | .08918 | 25,2 | .76369 | 49,6 | .23631 |
| .664 | .85362 | 74,7 | .08943 | 25,2 | .76419 | 49,5 | .23581 |
| 0.665 | 9.85437 | 74,7 | 0.08969 | 25,3 | 9.76469 | 49,4 | 0.23531 |
| .666 | .85512 | 74,6 | .08994 | 25,3 | .76518 | 49,3 | .23482 |
| .667 | .85586 | 74,5 | .09019 | 25,3 | .76567 | 49,2 | .23433 |
| .668 | .85661 | 74,4 | .09045 | 25,3 | .76616 | 49,1 | .23384 |
| .669 | .85735 | 74,3 | .09070 | 25,4 | .76665 | 48,9 | .23335 |
| 0.670 | 9.85809 | 74,2 | 0.09095 | 25,4 | 9.76714 | 48,8 | 0.23286 |
| .671 | .85884 | 74,2 | .09121 | 25,4 | .76763 | 48,7 | .23237 |
| .672 | .85958 | 74,1 | .09146 | 25,5 | .76812 | 48,6 | .23188 |
| .673 | .86032 | 74,0 | .09172 | 25,5 | .76860 | 48,5 | .23140 |
| .674 | .86106 | 73,9 | .09197 | 25,5 | .76909 | 48,4 | .23091 |
| 0.675 | 9.86180 | 73,8 | 0.09223 | 25,5 | 9.76957 | 48,3 | 0.23043 |
| .676 | .86253 | 73,7 | .09248 | 25,6 | .77005 | 48,2 | .22995 |
| .677 | .86327 | 73,7 | .09274 | 25,6 | .77053 | 48,1 | .22947 |
| .678 | .86401 | 73,6 | .09300 | 25,6 | .77101 | 47,9 | .22899 |
| .679 | .86474 | 73,5 | .09325 | 25,7 | .77149 | 47,8 | .22851 |
| 0.680 | 9.86548 | 73,4 | 0.09351 | 25,7 | 9.77197 | 47,7 | 0.22803 |
| .681 | .86621 | 73,3 | .09377 | 25,7 | .77245 | 47,6 | .22755 |
| .682 | .86694 | 73,3 | .09402 | 25,7 | .77292 | 47,5 | .22708 |
| .683 | .86768 | 73,2 | .09428 | 25,8 | .77340 | 47,4 | .22660 |
| .684 | .86841 | 73,1 | .09454 | 25,8 | .77387 | 47,3 | .22613 |
| 0.685 | 9.86914 | 73,0 | 0.09480 | 25,8 | 9.77434 | 47,2 | 0.22566 |
| .686 | .86987 | 72,9 | .09505 | 25,9 | .77481 | 47,1 | .22519 |
| .687 | .87060 | 72,9 | .09531 | 25,9 | .77528 | 47,0 | .22472 |
| .688 | .87133 | 72,8 | .09557 | 25,9 | .77575 | 46,9 | .22425 |
| .689 | .87205 | 72,7 | .09583 | 25,9 | .77622 | 46,8 | .22378 |
| 0.690 | 9.87278 | 72,6 | 0.09609 | 26,0 | 9.77669 | 46,7 | 0.22331 |
| .691 | .87351 | 72,5 | .09635 | 26,0 | .77715 | 46,6 | .22285 |
| .692 | .87423 | 72,5 | .09661 | 26,0 | .77762 | 46,4 | .22238 |
| .693 | .87495 | 72,4 | .09687 | 26,1 | .77808 | 46,3 | .22192 |
| .694 | .87568 | 72,3 | .09713 | 26,1 | .77855 | 46,2 | .22145 |
| 0.695 | 9.87640 | 72,2 | 0.09739 | 26,1 | 9.77901 | 46,1 | 0.22099 |
| .696 | .87712 | 72,2 | .09765 | 26,1 | .77947 | 46,0 | .22053 |
| .697 | .87784 | 72,1 | .09792 | 26,2 | .77993 | 45,9 | .22007 |
| .698 | .87856 | 72,0 | .09818 | 26,2 | .78039 | 45,8 | .21961 |
| .699 | .87928 | 71,9 | .09844 | 26,2 | .78084 | 45,7 | .21916 |
| 0.700 | 9.88000 | 71,9 | 0.09870 | 26,2 | 9.78130 | 45,6 | 0.21870 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.700 | 9.88000 | 71.9 | 0.00870 | 26.2 | 9.78130 | 45.6 | 0.21870 |
| .701 | .88072 | 71.8 | .00895 | 26.3 | .78176 | 45.5 | .21824 |
| .702 | .88144 | 71.7 | .00923 | 26.3 | .78221 | 45.4 | .21779 |
| .703 | .88216 | 71.6 | .00949 | 26.3 | .78266 | 45.3 | .21734 |
| .704 | .88287 | 71.6 | .00975 | 26.4 | .78312 | 45.2 | .21688 |
| 0.705 | 9.88359 | 71.5 | 0.10002 | 26.4 | 9.78357 | 45.1 | 0.21643 |
| .706 | .88430 | 71.4 | .10028 | 26.4 | .78402 | 45.0 | .21598 |
| .707 | .88502 | 71.3 | .10055 | 26.4 | .78447 | 44.9 | .21553 |
| .708 | .88573 | 71.3 | .10081 | 26.5 | .78492 | 44.8 | .21508 |
| .709 | .88644 | 71.2 | .10108 | 26.5 | .78536 | 44.7 | .21464 |
| 0.710 | 9.88715 | 71.1 | 0.10134 | 26.5 | 9.78581 | 44.6 | 0.21419 |
| .711 | .88786 | 71.0 | .10161 | 26.5 | .78626 | 44.5 | .21374 |
| .712 | .88857 | 71.0 | .10187 | 26.6 | .78670 | 44.4 | .21330 |
| .713 | .88928 | 70.9 | .10214 | 26.6 | .78714 | 44.3 | .21286 |
| .714 | .88999 | 70.8 | .10240 | 26.6 | .78759 | 44.2 | .21241 |
| 0.715 | 9.89070 | 70.8 | 0.10267 | 26.7 | 9.78803 | 44.1 | 0.21197 |
| .716 | .89141 | 70.7 | .10294 | 26.7 | .78847 | 44.0 | .21153 |
| .717 | .89211 | 70.6 | .10320 | 26.7 | .78891 | 43.9 | .21109 |
| .718 | .89282 | 70.5 | .10347 | 26.7 | .78935 | 43.8 | .21065 |
| .719 | .89352 | 70.5 | .10374 | 26.8 | .78978 | 43.7 | .21022 |
| 0.720 | 9.89423 | 70.4 | 0.10401 | 26.8 | 9.79022 | 43.6 | 0.20978 |
| .721 | .89493 | 70.3 | .10427 | 26.8 | .79066 | 43.5 | .20934 |
| .722 | .89563 | 70.3 | .10454 | 26.8 | .79109 | 43.4 | .20891 |
| .723 | .89634 | 70.2 | .10481 | 26.9 | .79153 | 43.3 | .20847 |
| .724 | .89704 | 70.1 | .10508 | 26.9 | .79196 | 43.2 | .20804 |
| 0.725 | 9.89774 | 70.0 | 0.10535 | 26.9 | 9.79239 | 43.1 | 0.20761 |
| .726 | .89844 | 70.0 | .10562 | 27.0 | .79282 | 43.0 | .20718 |
| .727 | .89914 | 69.9 | .10589 | 27.0 | .79325 | 42.9 | .20675 |
| .728 | .89984 | 69.8 | .10616 | 27.0 | .79368 | 42.8 | .20632 |
| .729 | .90054 | 69.8 | .10643 | 27.0 | .79411 | 42.7 | .20589 |
| 0.730 | 9.90123 | 69.7 | 0.10670 | 27.1 | 9.79453 | 42.6 | 0.20547 |
| .731 | .90193 | 69.6 | .10697 | 27.1 | .79496 | 42.5 | .20504 |
| .732 | .90263 | 69.6 | .10724 | 27.1 | .79538 | 42.5 | .20462 |
| .733 | .90332 | 69.5 | .10751 | 27.1 | .79581 | 42.4 | .20419 |
| .734 | .90402 | 69.4 | .10778 | 27.2 | .79623 | 42.3 | .20377 |
| 0.735 | 9.90471 | 69.4 | 0.10805 | 27.2 | 9.79665 | 42.2 | 0.20335 |
| .736 | .90540 | 69.3 | .10833 | 27.2 | .79708 | 42.1 | .20292 |
| .737 | .90610 | 69.2 | .10860 | 27.2 | .79750 | 42.0 | .20250 |
| .738 | .90679 | 69.2 | .10887 | 27.3 | .79791 | 41.9 | .20209 |
| .739 | .90748 | 69.1 | .10915 | 27.3 | .79833 | 41.8 | .20167 |
| 0.740 | 9.90817 | 69.0 | 0.10942 | 27.3 | 9.79875 | 41.7 | 0.20125 |
| .741 | .90886 | 69.0 | .10969 | 27.3 | .79917 | 41.6 | .20083 |
| .742 | .90955 | 68.9 | .10997 | 27.4 | .79958 | 41.5 | .20042 |
| .743 | .91024 | 68.8 | .11024 | 27.4 | .80000 | 41.4 | .20000 |
| .744 | .91092 | 68.8 | .11051 | 27.4 | .80041 | 41.3 | .19959 |
| 0.745 | 9.91161 | 68.7 | 0.11079 | 27.5 | 9.80082 | 41.2 | 0.19918 |
| .746 | .91230 | 68.6 | .11106 | 27.5 | .80124 | 41.2 | .19876 |
| .747 | .91298 | 68.6 | .11134 | 27.5 | .80165 | 41.1 | .19835 |
| .748 | .91367 | 68.5 | .11161 | 27.5 | .80206 | 41.0 | .19794 |
| .749 | .91436 | 68.4 | .11189 | 27.6 | .80247 | 40.9 | .19753 |
| 0.750 | 9.91504 | 68.4 | 0.11216 | 27.6 | 9.80288 | 40.8 | 0.19712 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.750 | 9.91504 | 68,4 | 0.11216 | 27,6 | 9.80288 | 40,8 | 0.19712 |
| .751 | .91572 | 68,3 | .11244 | 27,6 | .80328 | 40,7 | .19672 |
| .752 | .91641 | 68,2 | .11272 | 27,6 | .80369 | 40,6 | .19631 |
| .753 | .91709 | 68,2 | .11299 | 27,7 | .80410 | 40,5 | .19590 |
| .754 | .91777 | 68,1 | .11327 | 27,7 | .80450 | 40,4 | .19550 |
| 0.755 | 9.91845 | 68,1 | 0.11355 | 27,7 | 9.80490 | 40,3 | 0.19510 |
| .756 | .91913 | 68,0 | .11382 | 27,7 | .80531 | 40,3 | .19469 |
| .757 | .91981 | 67,9 | .11410 | 27,8 | .80571 | 40,2 | .19429 |
| .758 | .92049 | 67,9 | .11438 | 27,8 | .80611 | 40,1 | .19389 |
| .759 | .92117 | 67,8 | .11466 | 27,8 | .80651 | 40,0 | .19349 |
| 0.760 | 9.92185 | 67,7 | 0.11493 | 27,8 | 9.80691 | 39,9 | 0.19309 |
| .761 | .92252 | 67,7 | .11521 | 27,9 | .80731 | 39,8 | .19269 |
| .762 | .92320 | 67,6 | .11549 | 27,9 | .80771 | 39,7 | .19229 |
| .763 | .92387 | 67,6 | .11577 | 27,9 | .80810 | 39,6 | .19190 |
| .764 | .92455 | 67,5 | .11605 | 27,9 | .80850 | 39,6 | .19150 |
| 0.765 | 9.92522 | 67,4 | 0.11633 | 28,0 | 9.80889 | 39,5 | 0.19111 |
| .766 | .92590 | 67,4 | .11661 | 28,0 | .80929 | 39,4 | .19071 |
| .767 | .92657 | 67,3 | .11689 | 28,0 | .80968 | 39,3 | .19032 |
| .768 | .92724 | 67,3 | .11717 | 28,0 | .81007 | 39,2 | .18993 |
| .769 | .92792 | 67,2 | .11745 | 28,1 | .81047 | 39,1 | .18953 |
| 0.770 | 9.92859 | 67,1 | 0.11773 | 28,1 | 9.81086 | 39,0 | 0.18914 |
| .771 | .92926 | 67,1 | .11801 | 28,1 | .81125 | 39,0 | .18875 |
| .772 | .92993 | 67,0 | .11829 | 28,1 | .81164 | 38,9 | .18836 |
| .773 | .93060 | 67,0 | .11858 | 28,2 | .81202 | 38,8 | .18798 |
| .774 | .93127 | 66,9 | .11886 | 28,2 | .81241 | 38,7 | .18759 |
| 0.775 | 9.93194 | 66,8 | 0.11914 | 28,2 | 9.81280 | 38,6 | 0.18720 |
| .776 | .93261 | 66,8 | .11942 | 28,2 | .81318 | 38,5 | .18682 |
| .777 | .93327 | 66,7 | .11970 | 28,3 | .81357 | 38,4 | .18643 |
| .778 | .93394 | 66,7 | .11999 | 28,3 | .81395 | 38,4 | .18605 |
| .779 | .93461 | 66,6 | .12027 | 28,3 | .81434 | 38,3 | .18566 |
| 0.780 | 9.93527 | 66,5 | 0.12055 | 28,3 | 9.81472 | 38,2 | 0.18528 |
| .781 | .93594 | 66,5 | .12084 | 28,4 | .81510 | 38,1 | .18490 |
| .782 | .93660 | 66,4 | .12112 | 28,4 | .81548 | 38,0 | .18452 |
| .783 | .93727 | 66,4 | .12141 | 28,4 | .81586 | 37,9 | .18414 |
| .784 | .93793 | 66,3 | .12169 | 28,4 | .81624 | 37,9 | .18376 |
| 0.785 | 9.93859 | 66,2 | 0.12197 | 28,5 | 9.81662 | 37,8 | 0.18338 |
| .786 | .93925 | 66,2 | .12226 | 28,5 | .81699 | 37,7 | .18301 |
| .787 | .93992 | 66,1 | .12254 | 28,5 | .81737 | 37,6 | .18263 |
| .788 | .94058 | 66,1 | .12283 | 28,5 | .81775 | 37,5 | .18225 |
| .789 | .94124 | 66,0 | .12312 | 28,6 | .81812 | 37,4 | .18188 |
| 0.790 | 9.94190 | 66,0 | 0.12340 | 28,6 | 9.81850 | 37,4 | 0.18150 |
| .791 | .94256 | 65,9 | .12369 | 28,6 | .81887 | 37,3 | .18113 |
| .792 | .94321 | 65,8 | .12397 | 28,6 | .81924 | 37,2 | .18076 |
| .793 | .94387 | 65,8 | .12426 | 28,7 | .81961 | 37,1 | .18039 |
| .794 | .94453 | 65,7 | .12455 | 28,7 | .81998 | 37,0 | .18002 |
| 0.795 | 9.94519 | 65,7 | 0.12483 | 28,7 | 9.82035 | 37,0 | 0.17965 |
| .796 | .94584 | 65,6 | .12512 | 28,7 | .82072 | 36,9 | .17928 |
| .797 | .94650 | 65,6 | .12541 | 28,8 | .82109 | 36,8 | .17891 |
| .798 | .94716 | 65,5 | .12570 | 28,8 | .82146 | 36,7 | .17854 |
| .799 | .94781 | 65,5 | .12598 | 28,8 | .82183 | 36,6 | .17817 |
| 0.800 | 9.94846 | 65,4 | 0.12627 | 28,8 | 9.82219 | 36,6 | 0.17781 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.800 | 9.94846 | 65,4 | 0.12627 | 28,8 | 9.82219 | 36,6 | 0.17781 |
| .801 | .94912 | 65,3 | .12656 | 28,9 | .82256 | 36,5 | .17744 |
| .802 | .94977 | 65,3 | .12685 | 28,9 | .82292 | 36,4 | .17708 |
| .803 | .95042 | 65,2 | .12714 | 28,9 | .82329 | 36,3 | .17671 |
| .804 | .95108 | 65,2 | .12743 | 28,9 | .82365 | 36,2 | .17635 |
| 0.805 | 9.95173 | 65,1 | 0.12772 | 29,0 | 9.82401 | 36,2 | 0.17599 |
| .806 | .95238 | 65,1 | .12801 | 29,0 | .82437 | 36,1 | .17563 |
| .807 | .95303 | 65,0 | .12830 | 29,0 | .82473 | 36,0 | .17527 |
| .808 | .95368 | 65,0 | .12859 | 29,0 | .82509 | 35,9 | .17491 |
| .809 | .95433 | 64,9 | .12888 | 29,1 | .82545 | 35,9 | .17455 |
| 0.810 | 9.95498 | 64,9 | 0.12917 | 29,1 | 9.82581 | 35,8 | 0.17419 |
| .811 | .95563 | 64,8 | .12946 | 29,1 | .82617 | 35,7 | .17383 |
| .812 | .95627 | 64,8 | .12975 | 29,1 | .82652 | 35,6 | .17348 |
| .813 | .95692 | 64,7 | .13004 | 29,2 | .82688 | 35,5 | .17312 |
| .814 | .95757 | 64,6 | .13033 | 29,2 | .82723 | 35,5 | .17277 |
| 0.815 | 9.95821 | 64,6 | 0.13063 | 29,2 | 9.82759 | 35,4 | 0.17241 |
| .816 | .95886 | 64,5 | .13092 | 29,2 | .82794 | 35,3 | .17206 |
| .817 | .95950 | 64,5 | .13121 | 29,2 | .82829 | 35,2 | .17171 |
| .818 | .96015 | 64,4 | .13150 | 29,3 | .82865 | 35,2 | .17135 |
| .819 | .96079 | 64,4 | .13180 | 29,3 | .82900 | 35,1 | .17100 |
| 0.820 | 9.96144 | 64,3 | 0.13209 | 29,3 | 9.82935 | 35,0 | 0.17065 |
| .821 | .96208 | 64,3 | .13238 | 29,3 | .82970 | 34,9 | .17030 |
| .822 | .96272 | 64,2 | .13268 | 29,4 | .83005 | 34,9 | .16995 |
| .823 | .96336 | 64,2 | .13297 | 29,4 | .83040 | 34,8 | .16960 |
| .824 | .96401 | 64,1 | .13326 | 29,4 | .83074 | 34,7 | .16926 |
| 0.825 | 9.96465 | 64,1 | 0.13356 | 29,4 | 9.83109 | 34,6 | 0.16891 |
| .826 | .96529 | 64,0 | .13385 | 29,5 | .83144 | 34,6 | .16856 |
| .827 | .96593 | 64,0 | .13415 | 29,5 | .83178 | 34,5 | .16822 |
| .828 | .96657 | 63,9 | .13444 | 29,5 | .83213 | 34,4 | .16787 |
| .829 | .96721 | 63,9 | .13474 | 29,5 | .83247 | 34,3 | .16753 |
| 0.830 | 9.96784 | 63,8 | 0.13503 | 29,6 | 9.83281 | 34,3 | 0.16719 |
| .831 | .96848 | 63,8 | .13533 | 29,6 | .83316 | 34,2 | .16684 |
| .832 | .96912 | 63,7 | .13562 | 29,6 | .83350 | 34,1 | .16650 |
| .833 | .96976 | 63,7 | .13592 | 29,6 | .83384 | 34,0 | .16616 |
| .834 | .97039 | 63,6 | .13622 | 29,6 | .83418 | 34,0 | .16582 |
| 0.835 | 9.97103 | 63,6 | 0.13651 | 29,7 | 9.83452 | 33,9 | 0.16548 |
| .836 | .97167 | 63,5 | .13681 | 29,7 | .83486 | 33,8 | .16514 |
| .837 | .97230 | 63,5 | .13711 | 29,7 | .83519 | 33,8 | .16481 |
| .838 | .97293 | 63,4 | .13740 | 29,7 | .83553 | 33,7 | .16447 |
| .839 | .97357 | 63,4 | .13770 | 29,8 | .83587 | 33,6 | .16413 |
| 0.840 | 9.97420 | 63,3 | 0.13800 | 29,8 | 9.83620 | 33,5 | 0.16380 |
| .841 | .97484 | 63,3 | .13830 | 29,8 | .83654 | 33,5 | .16346 |
| .842 | .97547 | 63,2 | .13860 | 29,8 | .83688 | 33,4 | .16313 |
| .843 | .97610 | 63,2 | .13889 | 29,9 | .83721 | 33,3 | .16279 |
| .844 | .97673 | 63,1 | .13919 | 29,9 | .83754 | 33,3 | .16246 |
| 0.845 | 9.97736 | 63,1 | 0.13949 | 29,9 | 9.83787 | 33,2 | 0.16213 |
| .846 | .97799 | 63,0 | .13979 | 29,9 | .83820 | 33,1 | .16180 |
| .847 | .97862 | 63,0 | .14009 | 29,9 | .83853 | 33,0 | .16147 |
| .848 | .97925 | 62,9 | .14039 | 30,0 | .83886 | 33,0 | .16114 |
| .849 | .97988 | 62,9 | .14069 | 30,0 | .83919 | 32,9 | .16081 |
| 0.850 | 9.98051 | 62,8 | 0.14099 | 30,0 | 9.83952 | 32,8 | 0.16048 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.850 | 9.98051 | 62,8 | 0.14099 | 30,0 | 9.83952 | 32,8 | 0.16048 |
| .851 | .98114 | 62,8 | .14129 | 30,0 | .83985 | 32,8 | .16015 |
| .852 | .98177 | 62,7 | .14159 | 30,1 | .84018 | 32,7 | .15982 |
| .853 | .98239 | 62,7 | .14189 | 30,1 | .84050 | 32,6 | .15950 |
| .854 | .98302 | 62,7 | .14219 | 30,1 | .84083 | 32,6 | .15917 |
| 0.855 | 9.98365 | 62,6 | 0.14249 | 30,1 | 9.84115 | 32,5 | 0.15885 |
| .856 | .98427 | 62,6 | .14279 | 30,1 | .84148 | 32,4 | .15852 |
| .857 | .98490 | 62,5 | .14310 | 30,2 | .84180 | 32,3 | .15820 |
| .858 | .98552 | 62,5 | .14340 | 30,2 | .84213 | 32,3 | .15787 |
| .859 | .98615 | 62,4 | .14370 | 30,2 | .84245 | 32,2 | .15755 |
| 0.860 | 9.98677 | 62,4 | 0.14400 | 30,2 | 9.84277 | 32,1 | 0.15723 |
| .861 | .98739 | 62,3 | .14430 | 30,3 | .84309 | 32,1 | .15691 |
| .862 | .98802 | 62,3 | .14461 | 30,3 | .84341 | 32,0 | .15659 |
| .863 | .98864 | 62,2 | .14491 | 30,3 | .84373 | 31,9 | .15627 |
| .864 | .98926 | 62,2 | .14521 | 30,3 | .84405 | 31,9 | .15595 |
| 0.865 | 9.98988 | 62,1 | 0.14552 | 30,3 | 9.84437 | 31,8 | 0.15563 |
| .866 | .99051 | 62,1 | .14582 | 30,4 | .84469 | 31,7 | .15531 |
| .867 | .99113 | 62,1 | .14612 | 30,4 | .84500 | 31,7 | .15500 |
| .868 | .99175 | 62,0 | .14643 | 30,4 | .84532 | 31,6 | .15468 |
| .869 | .99237 | 62,0 | .14673 | 30,4 | .84563 | 31,5 | .15437 |
| 0.870 | 9.99299 | 61,9 | 0.14704 | 30,5 | 9.84595 | 31,5 | 0.15405 |
| .871 | .99361 | 61,9 | .14734 | 30,5 | .84626 | 31,4 | .15374 |
| .872 | .99422 | 61,8 | .14765 | 30,5 | .84658 | 31,3 | .15342 |
| .873 | .99484 | 61,8 | .14795 | 30,5 | .84689 | 31,3 | .15311 |
| .874 | .99546 | 61,7 | .14826 | 30,5 | .84720 | 31,2 | .15280 |
| 0.875 | 9.99608 | 61,7 | 0.14856 | 30,6 | 9.84751 | 31,1 | 0.15249 |
| .876 | .99669 | 61,7 | .14887 | 30,6 | .84783 | 31,1 | .15217 |
| .877 | .99731 | 61,6 | .14917 | 30,6 | .84814 | 31,0 | .15186 |
| .878 | .99793 | 61,6 | .14948 | 30,6 | .84845 | 30,9 | .15155 |
| .879 | .99854 | 61,5 | .14979 | 30,7 | .84875 | 30,9 | .15125 |
| 0.880 | 9.99916 | 61,5 | 0.15009 | 30,7 | 9.84906 | 30,8 | 0.15094 |
| .881 | .99977 | 61,4 | .15040 | 30,7 | .84937 | 30,7 | .15063 |
| .882 | 0.00038 | 61,4 | .15071 | 30,7 | .84968 | 30,7 | .15032 |
| .883 | .00100 | 61,3 | .15101 | 30,7 | .84998 | 30,6 | .15002 |
| .884 | .00161 | 61,3 | .15132 | 30,8 | .85029 | 30,5 | .14971 |
| 0.885 | 0.00222 | 61,3 | 0.15163 | 30,8 | 9.85059 | 30,5 | 0.14941 |
| .886 | .00284 | 61,2 | .15194 | 30,8 | .85090 | 30,4 | .14910 |
| .887 | .00345 | 61,2 | .15225 | 30,8 | .85120 | 30,3 | .14880 |
| .888 | .00406 | 61,1 | .15255 | 30,9 | .85151 | 30,3 | .14849 |
| .889 | .00467 | 61,1 | .15286 | 30,9 | .85181 | 30,2 | .14819 |
| 0.890 | 0.00528 | 61,0 | 0.15317 | 30,9 | 9.85211 | 30,2 | 0.14789 |
| .891 | .00589 | 61,0 | .15348 | 30,9 | .85241 | 30,1 | .14759 |
| .892 | .00650 | 61,0 | .15379 | 30,9 | .85271 | 30,0 | .14729 |
| .893 | .00711 | 60,9 | .15410 | 31,0 | .85301 | 30,0 | .14699 |
| .894 | .00772 | 60,9 | .15441 | 31,0 | .85331 | 29,9 | .14669 |
| 0.895 | 0.00833 | 60,8 | 0.15472 | 31,0 | 9.85361 | 29,8 | 0.14639 |
| .896 | .00894 | 60,8 | .15503 | 31,0 | .85391 | 29,8 | .14609 |
| .897 | .00955 | 60,8 | .15534 | 31,0 | .85421 | 29,7 | .14579 |
| .898 | .01015 | 60,7 | .15565 | 31,1 | .85450 | 29,6 | .14550 |
| .899 | .01076 | 60,7 | .15596 | 31,1 | .85480 | 29,6 | .14520 |
| 0.900 | 0.01137 | 60,6 | 0.15627 | 31,1 | 9.85509 | 29,5 | 0.14491 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.900 | 0.01137 | 60,6 | 0.15627 | 31,1 | 9.85509 | 29,5 | 0.14491 |
| .901 | .01197 | 60,6 | .15658 | 31,1 | .85539 | 29,5 | .14461 |
| .902 | .01258 | 60,5 | .15689 | 31,2 | .85568 | 29,4 | .14432 |
| .903 | .01318 | 60,5 | .15721 | 31,2 | .85598 | 29,3 | .14402 |
| .904 | .01379 | 60,5 | .15752 | 31,2 | .85627 | 29,3 | .14373 |
| 0.905 | 0.01439 | 60,4 | 0.15783 | 31,2 | 9.85656 | 29,2 | 0.14344 |
| .906 | .01500 | 60,4 | .15814 | 31,2 | .85685 | 29,2 | .14315 |
| .907 | .01560 | 60,3 | .15846 | 31,3 | .85715 | 29,1 | .14285 |
| .908 | .01620 | 60,3 | .15877 | 31,3 | .85744 | 29,0 | .14256 |
| .909 | .01681 | 60,3 | .15908 | 31,3 | .85773 | 29,0 | .14227 |
| 0.910 | 0.01741 | 60,2 | 0.15939 | 31,3 | 9.85801 | 28,9 | 0.14199 |
| .911 | .01801 | 60,2 | .15971 | 31,3 | .85830 | 28,8 | .14170 |
| .912 | .01861 | 60,1 | .16002 | 31,4 | .85859 | 28,8 | .14141 |
| .913 | .01921 | 60,1 | .16033 | 31,4 | .85888 | 28,7 | .14112 |
| .914 | .01981 | 60,1 | .16065 | 31,4 | .85917 | 28,7 | .14083 |
| 0.915 | 0.02041 | 60,0 | 0.16096 | 31,4 | 9.85945 | 28,6 | 0.14055 |
| .916 | .02101 | 60,0 | .16128 | 31,4 | .85974 | 28,5 | .14026 |
| .917 | .02161 | 59,9 | .16159 | 31,5 | .86002 | 28,5 | .13998 |
| .918 | .02221 | 59,9 | .16191 | 31,5 | .86031 | 28,4 | .13969 |
| .919 | .02281 | 59,9 | .16222 | 31,5 | .86059 | 28,4 | .13941 |
| 0.920 | 0.02341 | 59,8 | 0.16254 | 31,5 | 9.86088 | 28,3 | 0.13912 |
| .921 | .02401 | 59,8 | .16285 | 31,5 | .86116 | 28,2 | .13884 |
| .922 | .02461 | 59,8 | .16317 | 31,6 | .86144 | 28,2 | .13856 |
| .923 | .02520 | 59,7 | .16348 | 31,6 | .86172 | 28,1 | .13828 |
| .924 | .02580 | 59,7 | .16380 | 31,6 | .86200 | 28,1 | .13800 |
| 0.925 | 0.02640 | 59,6 | 0.16411 | 31,6 | 9.86228 | 28,0 | 0.13772 |
| .926 | .02699 | 59,6 | .16443 | 31,6 | .86256 | 27,9 | .13744 |
| .927 | .02759 | 59,6 | .16475 | 31,7 | .86284 | 27,9 | .13716 |
| .928 | .02819 | 59,5 | .16506 | 31,7 | .86312 | 27,8 | .13688 |
| .929 | .02878 | 59,5 | .16538 | 31,7 | .86340 | 27,8 | .13660 |
| 0.930 | 0.02937 | 59,4 | 0.16570 | 31,7 | 9.86368 | 27,7 | 0.13632 |
| .931 | .02997 | 59,4 | .16602 | 31,7 | .86395 | 27,7 | .13605 |
| .932 | .03056 | 59,4 | .16633 | 31,8 | .86423 | 27,6 | .13577 |
| .933 | .03116 | 59,3 | .16665 | 31,8 | .86450 | 27,5 | .13550 |
| .934 | .03175 | 59,3 | .16697 | 31,8 | .86478 | 27,5 | .13522 |
| 0.935 | 0.03234 | 59,3 | 0.16729 | 31,8 | 9.86505 | 27,4 | 0.13495 |
| .936 | .03293 | 59,2 | .16761 | 31,9 | .86533 | 27,4 | .13467 |
| .937 | .03353 | 59,2 | .16792 | 31,9 | .86560 | 27,3 | .13440 |
| .938 | .03412 | 59,1 | .16824 | 31,9 | .86587 | 27,3 | .13413 |
| .939 | .03471 | 59,1 | .16856 | 31,9 | .86615 | 27,2 | .13385 |
| 0.940 | 0.03530 | 59,1 | 0.16888 | 31,9 | 9.86642 | 27,1 | 0.13358 |
| .941 | .03589 | 59,0 | .16920 | 32,0 | .86669 | 27,1 | .13331 |
| .942 | .03648 | 59,0 | .16952 | 32,0 | .86696 | 27,0 | .13304 |
| .943 | .03707 | 59,0 | .16984 | 32,0 | .86723 | 27,0 | .13277 |
| .944 | .03766 | 58,9 | .17016 | 32,0 | .86750 | 26,9 | .13250 |
| 0.945 | 0.03825 | 58,9 | 0.17048 | 32,0 | 9.86777 | 26,9 | 0.13223 |
| .946 | .03884 | 58,9 | .17080 | 32,0 | .86804 | 26,8 | .13196 |
| .947 | .03943 | 58,8 | .17112 | 32,1 | .86830 | 26,7 | .13170 |
| .948 | .04001 | 58,8 | .17144 | 32,1 | .86857 | 26,7 | .13143 |
| .949 | .04060 | 58,7 | .17176 | 32,1 | .86884 | 26,6 | .13116 |
| 0.950 | 0.04119 | 58,7 | 0.17208 | 32,1 | 9.86910 | 26,6 | 0.13090 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 0.950 | 0.04119 | 58,7 | 0.17208 | 32,1 | 9.86910 | 26,6 | 0.13090 |
| .951 | .04178 | 58,7 | .17241 | 32,1 | .86937 | 26,5 | .13063 |
| .952 | .04236 | 58,6 | .17273 | 32,2 | .86963 | 26,5 | .13037 |
| .953 | .04295 | 58,6 | .17305 | 32,2 | .86990 | 26,4 | .13010 |
| .954 | .04353 | 58,6 | .17337 | 32,2 | .87016 | 26,4 | .12984 |
| 0.955 | 0.04412 | 58,5 | 0.17369 | 32,2 | 9.87043 | 26,3 | 0.12957 |
| .956 | .04470 | 58,5 | .17402 | 32,2 | .87069 | 26,2 | .12931 |
| .957 | .04529 | 58,5 | .17434 | 32,3 | .87095 | 26,2 | .12905 |
| .958 | .04587 | 58,4 | .17466 | 32,3 | .87121 | 26,1 | .12879 |
| .959 | .04646 | 58,4 | .17498 | 32,3 | .87147 | 26,1 | .12853 |
| 0.960 | 0.04704 | 58,4 | 0.17531 | 32,3 | 9.87173 | 26,0 | 0.12827 |
| .961 | .04763 | 58,3 | .17563 | 32,3 | .87199 | 26,0 | .12801 |
| .962 | .04821 | 58,3 | .17595 | 32,4 | .87225 | 25,9 | .12775 |
| .963 | .04879 | 58,2 | .17628 | 32,4 | .87251 | 25,9 | .12749 |
| .964 | .04937 | 58,2 | .17660 | 32,4 | .87277 | 25,8 | .12723 |
| 0.965 | 0.04996 | 58,2 | 0.17693 | 32,4 | 9.87303 | 25,8 | 0.12697 |
| .966 | .05054 | 58,1 | .17725 | 32,4 | .87329 | 25,7 | .12671 |
| .967 | .05112 | 58,1 | .17757 | 32,5 | .87354 | 25,7 | .12646 |
| .968 | .05170 | 58,1 | .17790 | 32,5 | .87380 | 25,6 | .12620 |
| .969 | .05228 | 58,0 | .17822 | 32,5 | .87406 | 25,5 | .12594 |
| 0.970 | 0.05286 | 58,0 | 0.17855 | 32,5 | 9.87431 | 25,5 | 0.12569 |
| .971 | .05344 | 58,0 | .17887 | 32,5 | .87456 | 25,4 | .12544 |
| .972 | .05402 | 57,9 | .17920 | 32,6 | .87482 | 25,4 | .12518 |
| .973 | .05460 | 57,9 | .17953 | 32,6 | .87507 | 25,3 | .12493 |
| .974 | .05518 | 57,9 | .17985 | 32,6 | .87533 | 25,3 | .12467 |
| 0.975 | 0.05576 | 57,8 | 0.18018 | 32,6 | 9.87558 | 25,2 | 0.12442 |
| .976 | .05633 | 57,8 | .18050 | 32,6 | .87583 | 25,2 | .12417 |
| .977 | .05691 | 57,8 | .18083 | 32,6 | .87608 | 25,1 | .12392 |
| .978 | .05749 | 57,7 | .18116 | 32,7 | .87633 | 25,1 | .12367 |
| .979 | .05807 | 57,7 | .18148 | 32,7 | .87658 | 25,0 | .12342 |
| 0.980 | 0.05864 | 57,7 | 0.18181 | 32,7 | 9.87683 | 25,0 | 0.12317 |
| .981 | .05922 | 57,6 | .18214 | 32,7 | .87708 | 24,9 | .12292 |
| .982 | .05980 | 57,6 | .18246 | 32,7 | .87733 | 24,9 | .12267 |
| .983 | .06037 | 57,6 | .18279 | 32,8 | .87758 | 24,8 | .12242 |
| .984 | .06095 | 57,5 | .18312 | 32,8 | .87783 | 24,8 | .12217 |
| 0.985 | 0.06152 | 57,5 | 0.18345 | 32,8 | 9.87807 | 24,7 | 0.12193 |
| .986 | .06210 | 57,5 | .18378 | 32,8 | .87832 | 24,7 | .12168 |
| .987 | .06267 | 57,4 | .18410 | 32,8 | .87857 | 24,6 | .12143 |
| .988 | .06325 | 57,4 | .18443 | 32,9 | .87881 | 24,6 | .12119 |
| .989 | .06382 | 57,4 | .18476 | 32,9 | .87906 | 24,5 | .12094 |
| 0.990 | 0.06439 | 57,3 | 0.18509 | 32,9 | 9.87930 | 24,5 | 0.12070 |
| .991 | .06497 | 57,3 | .18542 | 32,9 | .87955 | 24,4 | .12045 |
| .992 | .06554 | 57,3 | .18575 | 32,9 | .87979 | 24,3 | .12021 |
| .993 | .06611 | 57,2 | .18608 | 32,9 | .88003 | 24,3 | .11997 |
| .994 | .06669 | 57,2 | .18641 | 33,0 | .88028 | 24,2 | .11972 |
| 0.995 | 0.06726 | 57,2 | 0.18674 | 33,0 | 9.88052 | 24,2 | 0.11948 |
| .996 | .06783 | 57,2 | .18707 | 33,0 | .88076 | 24,1 | .11924 |
| .997 | .06840 | 57,1 | .18740 | 33,0 | .88100 | 24,1 | .11900 |
| .998 | .06897 | 57,1 | .18773 | 33,0 | .88124 | 24,0 | .11876 |
| .999 | .06954 | 57,1 | .18806 | 33,1 | .88148 | 24,0 | .11852 |
| 1.000 | 0.07011 | 57,0 | 0.18839 | 33,1 | 9.88172 | 23,9 | 0.11828 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I.000 | 0.07011 | 57,0 | 0.18839 | 33,1 | 9.88172 | 23,9 | 0.11828 |
| .001 | .07068 | 57,0 | .18872 | 33,1 | .88196 | 23,9 | .11804 |
| .002 | .07125 | 57,0 | .18905 | 33,1 | .88220 | 23,8 | .11780 |
| .003 | .07182 | 56,9 | .18938 | 33,1 | .88244 | 23,8 | .11756 |
| .004 | .07239 | 56,9 | .18971 | 33,1 | .88268 | 23,8 | .11732 |
| I.005 | 0.07296 | 56,9 | 0.19004 | 33,2 | 9.88291 | 23,7 | 0.11709 |
| .006 | .07353 | 56,8 | .19038 | 33,2 | .88315 | 23,7 | .11685 |
| .007 | .07410 | 56,8 | .19071 | 33,2 | .88339 | 23,6 | .11661 |
| .008 | .07466 | 56,8 | .19104 | 33,2 | .88362 | 23,6 | .11638 |
| .009 | .07523 | 56,7 | .18137 | 33,2 | .88386 | 23,5 | .11614 |
| I.010 | 0.07580 | 56,7 | 0.19171 | 33,3 | 9.88409 | 23,5 | 0.11591 |
| .011 | .07637 | 56,7 | .19204 | 33,3 | .88433 | 23,4 | .11567 |
| .012 | .07693 | 56,7 | .19237 | 33,3 | .88456 | 23,4 | .11544 |
| .013 | .07750 | 56,6 | .19270 | 33,3 | .88480 | 23,3 | .11520 |
| .014 | .07807 | 56,6 | .19304 | 33,3 | .88503 | 23,3 | .11497 |
| I.015 | 0.07863 | 56,6 | 0.19337 | 33,3 | 9.88526 | 23,2 | 0.11474 |
| .016 | .07920 | 56,5 | .19370 | 33,4 | .88549 | 23,2 | .11451 |
| .017 | .07976 | 56,5 | .19404 | 33,4 | .88572 | 23,1 | .11428 |
| .018 | .08033 | 56,5 | .19437 | 33,4 | .88595 | 23,1 | .11405 |
| .019 | .08089 | 56,4 | .19471 | 33,4 | .88619 | 23,0 | .11381 |
| I.020 | 0.08146 | 56,4 | 0.19504 | 33,4 | 9.88642 | 23,0 | 0.11358 |
| .021 | .08202 | 56,4 | .19537 | 33,5 | .88664 | 22,9 | .11336 |
| .022 | .08258 | 56,4 | .19571 | 33,5 | .88687 | 22,9 | .11313 |
| .023 | .08315 | 56,3 | .19604 | 33,5 | .88710 | 22,8 | .11290 |
| .024 | .08371 | 56,3 | .19638 | 33,5 | .88733 | 22,8 | .11267 |
| I.025 | 0.08427 | 56,3 | 0.19671 | 33,5 | 9.88756 | 22,7 | 0.11244 |
| .026 | .08483 | 56,2 | .19705 | 33,5 | .88779 | 22,7 | .11221 |
| .027 | .08540 | 56,2 | .19738 | 33,6 | .88801 | 22,6 | .11199 |
| .028 | .08596 | 56,2 | .19772 | 33,6 | .88824 | 22,6 | .11176 |
| .029 | .08652 | 56,1 | .19806 | 33,6 | .88846 | 22,6 | .11154 |
| I.030 | 0.08708 | 56,1 | 0.19839 | 33,6 | 9.88869 | 22,5 | 0.11131 |
| .031 | .08764 | 56,1 | .19873 | 33,6 | .88891 | 22,5 | .11109 |
| .032 | .08820 | 56,1 | .19906 | 33,6 | .88914 | 22,4 | .11086 |
| .033 | .08876 | 56,0 | .19940 | 33,7 | .88936 | 22,4 | .11064 |
| .034 | .08932 | 56,0 | .19974 | 33,7 | .88959 | 22,3 | .11041 |
| I.035 | 0.08988 | 56,0 | 0.20007 | 33,7 | 9.88981 | 22,3 | 0.11019 |
| .036 | .09044 | 55,9 | .20041 | 33,7 | .89003 | 22,2 | .10997 |
| .037 | .09100 | 55,9 | .20075 | 33,7 | .89025 | 22,2 | .10975 |
| .038 | .09156 | 55,9 | .20109 | 33,7 | .89048 | 22,1 | .10952 |
| .039 | .09212 | 55,9 | .20142 | 33,8 | .89070 | 22,1 | .10930 |
| I.040 | 0.09268 | 55,8 | 0.20176 | 33,8 | 9.89092 | 22,0 | 0.10908 |
| .041 | .09324 | 55,8 | .20210 | 33,8 | .89114 | 22,0 | .10886 |
| .042 | .09379 | 55,8 | .20244 | 33,8 | .89136 | 22,0 | .10864 |
| .043 | .09435 | 55,7 | .20278 | 33,8 | .89158 | 21,9 | .10842 |
| .044 | .09491 | 55,7 | .20311 | 33,9 | .89180 | 21,9 | .10820 |
| I.045 | 0.09547 | 55,7 | 0.20345 | 33,9 | 9.89201 | 21,8 | 0.10799 |
| .046 | .09602 | 55,7 | .20379 | 33,9 | .89223 | 21,8 | .10777 |
| .047 | .09658 | 55,6 | .20413 | 33,9 | .89245 | 21,7 | .10755 |
| .048 | .09714 | 55,6 | .20447 | 33,9 | .89267 | 21,7 | .10733 |
| .049 | .09769 | 55,6 | .20481 | 33,9 | .89288 | 21,6 | .10712 |
| I.050 | 0.09825 | 55,6 | 0.20515 | 34,0 | 9.89310 | 21,6 | 0.10690 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 050 | 0.09825 | 55.6 | 0.20515 | 34.0 | 9.89310 | 21.6 | 0.10690 |
| .051 | .09880 | 55.5 | .20549 | 34.0 | .89331 | 21.6 | .10669 |
| .052 | .09936 | 55.5 | .20583 | 34.0 | .89353 | 21.5 | .10647 |
| .053 | .09991 | 55.5 | .20617 | 34.0 | .89375 | 21.5 | .10625 |
| .054 | .10047 | 55.4 | .20651 | 34.0 | .89396 | 21.4 | .10604 |
| I. 055 | 0.10102 | 55.4 | 0.20685 | 34.0 | 9.89417 | 21.4 | 0.10583 |
| .056 | .10158 | 55.4 | .20719 | 34.1 | .89439 | 21.3 | .10561 |
| .057 | .10213 | 55.4 | .20753 | 34.1 | .89460 | 21.3 | .10540 |
| .058 | .10268 | 55.3 | .20787 | 34.1 | .89481 | 21.2 | .10519 |
| .059 | .10324 | 55.3 | .20821 | 34.1 | .89502 | 21.2 | .10498 |
| I. 060 | 0.10379 | 55.3 | 0.20855 | 34.1 | 9.89524 | 21.2 | 0.10476 |
| .061 | .10434 | 55.3 | .20889 | 34.1 | .89545 | 21.1 | .10455 |
| .062 | .10489 | 55.2 | .20924 | 34.2 | .89566 | 21.1 | .10434 |
| .063 | .10545 | 55.2 | .20958 | 34.2 | .89587 | 21.0 | .10413 |
| .064 | .10600 | 55.2 | .20992 | 34.2 | .89608 | 21.0 | .10392 |
| I. 065 | 0.10655 | 55.1 | 0.21026 | 34.2 | 9.89629 | 20.9 | 0.10371 |
| .066 | .10710 | 55.1 | .21060 | 34.2 | .89650 | 20.9 | .10350 |
| .067 | .10765 | 55.1 | .21094 | 34.2 | .89671 | 20.9 | .10329 |
| .068 | .10820 | 55.1 | .21129 | 34.3 | .89692 | 20.8 | .10308 |
| .069 | .10875 | 55.0 | .21163 | 34.3 | .89712 | 20.8 | .10288 |
| I. 070 | 0.10930 | 55.0 | 0.21197 | 34.3 | 9.89733 | 20.7 | 0.10267 |
| .071 | .10985 | 55.0 | .21232 | 34.3 | .89754 | 20.7 | .10246 |
| .072 | .11040 | 55.0 | .21266 | 34.3 | .89774 | 20.6 | .10226 |
| .073 | .11095 | 54.9 | .21300 | 34.3 | .89795 | 20.6 | .10205 |
| .074 | .11150 | 54.9 | .21335 | 34.4 | .89816 | 20.6 | .10184 |
| I. 075 | 0.11205 | 54.9 | 0.21369 | 34.4 | 9.89836 | 20.5 | 0.10164 |
| .076 | .11260 | 54.9 | .21403 | 34.4 | .89857 | 20.5 | .10143 |
| .077 | .11315 | 54.8 | .21438 | 34.4 | .89877 | 20.4 | .10123 |
| .078 | .11370 | 54.8 | .21472 | 34.4 | .89898 | 20.4 | .10102 |
| .079 | .11424 | 54.8 | .21507 | 34.4 | .89918 | 20.3 | .10082 |
| I. 080 | 0.11479 | 54.8 | 0.21541 | 34.4 | 9.89938 | 20.3 | 0.10062 |
| .081 | .11534 | 54.7 | .21575 | 34.5 | .89959 | 20.3 | .10041 |
| .082 | .11589 | 54.7 | .21610 | 34.5 | .89979 | 20.2 | .10021 |
| .083 | .11643 | 54.7 | .21644 | 34.5 | .89999 | 20.2 | .10001 |
| .084 | .11698 | 54.7 | .21679 | 34.5 | .90019 | 20.1 | .09981 |
| I. 085 | 0.11753 | 54.6 | 0.21713 | 34.5 | 9.90039 | 20.1 | 0.09961 |
| .086 | .11807 | 54.6 | .21748 | 34.5 | .90059 | 20.1 | .09941 |
| .087 | .11862 | 54.6 | .21782 | 34.6 | .90079 | 20.0 | .09921 |
| .088 | .11916 | 54.5 | .21817 | 34.6 | .90099 | 20.0 | .09901 |
| .089 | .11971 | 54.5 | .21852 | 34.6 | .90119 | 19.9 | .09881 |
| I. 090 | 0.12025 | 54.5 | 0.21886 | 34.6 | 9.90139 | 19.9 | 0.09861 |
| .091 | .12080 | 54.5 | .21921 | 34.6 | .90159 | 19.9 | .09841 |
| .092 | .12134 | 54.4 | .21955 | 34.6 | .90179 | 19.8 | .09821 |
| .093 | .12189 | 54.4 | .21990 | 34.7 | .90199 | 19.8 | .09801 |
| .094 | .12243 | 54.4 | .22025 | 34.7 | .90218 | 19.7 | .09782 |
| I. 095 | 0.12298 | 54.4 | 0.22059 | 34.7 | 9.90238 | 19.7 | 0.09762 |
| .096 | .12352 | 54.4 | .22094 | 34.7 | .90258 | 19.6 | .09742 |
| .097 | .12406 | 54.3 | .22129 | 34.7 | .90277 | 19.6 | .09723 |
| .098 | .12461 | 54.3 | .22164 | 34.7 | .90297 | 19.6 | .09703 |
| .099 | .12515 | 54.3 | .22198 | 34.7 | .90317 | 19.5 | .09683 |
| I. 100 | 0.12569 | 54.3 | 0.22233 | 34.8 | 9.90336 | 19.5 | 0.09664 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 100 | 0.12569 | 54,3 | 0.22233 | 34,8 | 9.90336 | 19,5 | 0.09664 |
| .101 | .12623 | 54,2 | .22268 | 34,8 | .90356 | 19,4 | .09644 |
| .102 | .12678 | 54,2 | .22303 | 34,8 | .90375 | 19,4 | .09625 |
| .103 | .12732 | 54,2 | .22337 | 34,8 | .90394 | 19,4 | .09606 |
| .104 | .12786 | 54,2 | .22372 | 34,8 | .90414 | 19,3 | .09586 |
| I. 105 | 0.12840 | 54,1 | 0.22407 | 34,8 | 9.90433 | 19,3 | 0.09567 |
| .106 | .12894 | 54,1 | .22442 | 34,9 | .90452 | 19,2 | .09548 |
| .107 | .12948 | 54,1 | .22477 | 34,9 | .90472 | 19,2 | .09528 |
| .108 | .13002 | 54,1 | .22512 | 34,9 | .90491 | 19,2 | .09509 |
| .109 | .13056 | 54,0 | .22547 | 34,9 | .90510 | 19,1 | .09490 |
| I. 110 | 0.13111 | 54,0 | 0.22582 | 34,9 | 9.90529 | 19,1 | 0.09471 |
| .111 | .13165 | 54,0 | .22616 | 34,9 | .90548 | 19,1 | .09452 |
| .112 | .13218 | 54,0 | .22651 | 35,0 | .90567 | 19,0 | .09433 |
| .113 | .13272 | 53,9 | .22686 | 35,0 | .90586 | 19,0 | .09414 |
| .114 | .13326 | 53,9 | .22721 | 35,0 | .90605 | 18,9 | .09395 |
| I. 115 | 0.13380 | 53,9 | 0.22756 | 35,0 | 9.90624 | 18,9 | 0.09376 |
| .116 | .13434 | 53,9 | .22791 | 35,0 | .90643 | 18,9 | .09357 |
| .117 | .13488 | 53,8 | .22826 | 35,0 | .90662 | 18,8 | .09338 |
| .118 | .13542 | 53,8 | .22861 | 35,0 | .90680 | 18,8 | .09320 |
| .119 | .13596 | 53,8 | .22896 | 35,1 | .90699 | 18,7 | .09301 |
| I. 120 | 0.13649 | 53,8 | 0.22931 | 35,1 | 9.90718 | 18,7 | 0.09282 |
| .121 | .13703 | 53,8 | .22967 | 35,1 | .90737 | 18,7 | .09263 |
| .122 | .13757 | 53,7 | .23002 | 35,1 | .90755 | 18,6 | .09245 |
| .123 | .13811 | 53,7 | .23037 | 35,1 | .90774 | 18,6 | .09226 |
| .124 | .13864 | 53,7 | .23072 | 35,1 | .90792 | 18,6 | .09208 |
| I. 125 | 0.13918 | 53,7 | 0.23107 | 35,1 | 9.90811 | 18,5 | 0.09189 |
| .126 | .13972 | 53,6 | .23142 | 35,2 | .90830 | 18,5 | .09170 |
| .127 | .14025 | 53,6 | .23177 | 35,2 | .90848 | 18,4 | .09152 |
| .128 | .14079 | 53,6 | .23213 | 35,2 | .90866 | 18,4 | .09134 |
| .129 | .14133 | 53,6 | .23248 | 35,2 | .90885 | 18,4 | .09115 |
| I. 130 | 0.14186 | 53,5 | 0.23283 | 35,2 | 9.90903 | 18,3 | 0.09097 |
| .131 | .14240 | 53,5 | .23318 | 35,2 | .90921 | 18,3 | .09079 |
| .132 | .14293 | 53,5 | .23353 | 35,3 | .90940 | 18,3 | .09060 |
| .133 | .14347 | 53,5 | .23389 | 35,3 | .90958 | 18,2 | .09042 |
| .134 | .14400 | 53,5 | .23424 | 35,3 | .90976 | 18,2 | .09024 |
| I. 135 | 0.14454 | 53,4 | 0.23459 | 35,3 | 9.90994 | 18,1 | 0.09006 |
| .136 | .14507 | 53,4 | .23495 | 35,3 | .91012 | 18,1 | .08988 |
| .137 | .14560 | 53,4 | .23530 | 35,3 | .91030 | 18,1 | .08970 |
| .138 | .14614 | 53,4 | .23565 | 35,3 | .91049 | 18,0 | .08951 |
| .139 | .14667 | 53,3 | .23601 | 35,4 | .91067 | 18,0 | .08933 |
| I. 140 | 0.14720 | 53,3 | 0.23636 | 35,4 | 9.91085 | 18,0 | 0.08915 |
| .141 | .14774 | 53,3 | .23671 | 35,4 | .91102 | 17,9 | .08898 |
| .142 | .14827 | 53,3 | .23707 | 35,4 | .91120 | 17,9 | .08880 |
| .143 | .14880 | 53,3 | .23742 | 35,4 | .91138 | 17,8 | .08862 |
| .144 | .14934 | 53,2 | .23778 | 35,4 | .91156 | 17,8 | .08844 |
| I. 145 | 0.14987 | 53,2 | 0.23813 | 35,4 | 9.91174 | 17,8 | 0.08826 |
| .146 | .15040 | 53,2 | .23848 | 35,5 | .91192 | 17,7 | .08808 |
| .147 | .15093 | 53,2 | .23884 | 35,5 | .91209 | 17,7 | .08791 |
| .148 | .15146 | 53,2 | .23919 | 35,5 | .91227 | 17,7 | .08773 |
| .149 | .15200 | 53,1 | .23955 | 35,5 | .91245 | 17,6 | .08755 |
| I. 150 | 0.15253 | 53,1 | 0.23990 | 35,5 | 9.91262 | 17,6 | 0.08738 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 150 | 0.15253 | 53.1 | 0.23990 | 35.5 | 9.91262 | 17.6 | 0.08738 |
| .151 | .15306 | 53.1 | .24026 | 35.5 | .91280 | 17.6 | .08720 |
| .152 | .15359 | 53.1 | .24061 | 35.5 | .91297 | 17.5 | .08703 |
| .153 | .15412 | 53.0 | .24097 | 35.6 | .91315 | 17.5 | .08685 |
| .154 | .15465 | 53.0 | .24133 | 35.6 | .91332 | 17.5 | .08668 |
| I. 155 | 0.15518 | 53.0 | 0.24168 | 35.6 | 9.91350 | 17.4 | 0.08650 |
| .156 | .15571 | 53.0 | .24204 | 35.6 | .91367 | 17.4 | .08633 |
| .157 | .15624 | 53.0 | .24239 | 35.6 | .91385 | 17.3 | .08615 |
| .158 | .15677 | 52.9 | .24275 | 35.6 | .91402 | 17.3 | .08598 |
| .159 | .15730 | 52.9 | .24311 | 36.6 | .91419 | 17.3 | .08581 |
| I. 160 | 0.15783 | 52.9 | 0.24346 | 35.7 | 9.91436 | 17.2 | 0.08564 |
| .161 | .15836 | 52.9 | .24382 | 35.7 | .91454 | 17.2 | .08546 |
| .162 | .15888 | 52.9 | .24418 | 35.7 | .91471 | 17.2 | .08529 |
| .163 | .15941 | 52.8 | .24453 | 35.7 | .91488 | 17.1 | .08512 |
| .164 | .15994 | 52.8 | .24489 | 35.7 | .91505 | 17.1 | .08495 |
| I. 165 | 0.16047 | 52.8 | 0.24525 | 35.7 | 9.91522 | 17.1 | 0.08478 |
| .166 | .16100 | 52.8 | .24560 | 35.7 | .91539 | 17.0 | .08461 |
| .167 | .16152 | 52.7 | .24596 | 35.8 | .91556 | 17.0 | .08444 |
| .168 | .16205 | 52.7 | .24632 | 35.8 | .91573 | 17.0 | .08427 |
| .169 | .16258 | 52.7 | .24668 | 35.8 | .91590 | 16.9 | .08410 |
| I. 170 | 0.16311 | 52.7 | 0.24703 | 35.8 | 9.91607 | 16.9 | 0.08393 |
| .171 | .16363 | 52.7 | .24739 | 35.8 | .91624 | 16.9 | .08376 |
| .172 | .16416 | 52.6 | .24775 | 35.8 | .91641 | 16.8 | .08359 |
| .173 | .16469 | 52.6 | .24811 | 35.8 | .91658 | 16.8 | .08342 |
| .174 | .16521 | 52.6 | .24847 | 35.9 | .91674 | 16.8 | .08326 |
| I. 175 | 0.16574 | 52.6 | 0.24883 | 35.9 | 9.91691 | 16.7 | 0.08309 |
| .176 | .16626 | 52.6 | .24919 | 35.9 | .91708 | 16.7 | .08292 |
| .177 | .16679 | 52.5 | .24954 | 35.9 | .91724 | 16.7 | .08276 |
| .178 | .16731 | 52.5 | .24990 | 35.9 | .91741 | 16.6 | .08259 |
| .179 | .16784 | 52.5 | .25026 | 35.9 | .91758 | 16.6 | .08242 |
| I. 180 | 0.16836 | 52.5 | 0.25062 | 35.9 | 9.91774 | 16.6 | 0.08226 |
| .181 | .16889 | 52.5 | .25098 | 35.9 | .91791 | 16.5 | .08209 |
| .182 | .16941 | 52.4 | .25134 | 36.0 | .91807 | 16.5 | .08193 |
| .183 | .16994 | 52.4 | .25170 | 36.0 | .91824 | 16.4 | .08176 |
| .184 | .17046 | 52.4 | .25206 | 36.0 | .91840 | 16.4 | .08160 |
| I. 185 | 0.17099 | 52.4 | 0.25242 | 36.0 | 9.91857 | 16.4 | 0.08143 |
| .186 | .17151 | 52.4 | .25278 | 36.0 | .91873 | 16.3 | .08127 |
| .187 | .17203 | 52.3 | .25314 | 36.0 | .91889 | 16.3 | .08111 |
| .188 | .17256 | 52.3 | .25350 | 36.0 | .91906 | 16.3 | .08094 |
| .189 | .17308 | 52.3 | .25386 | 36.1 | .91922 | 16.2 | .08078 |
| I. 190 | 0.17360 | 52.3 | 0.25422 | 36.1 | 9.91938 | 16.2 | 0.08062 |
| .191 | .17413 | 52.3 | .25458 | 36.1 | .91954 | 16.2 | .08046 |
| .192 | .17465 | 52.2 | .25494 | 36.1 | .91970 | 16.2 | .08030 |
| .193 | .17517 | 52.2 | .25530 | 36.1 | .91987 | 16.1 | .08013 |
| .194 | .17569 | 52.2 | .25567 | 36.1 | .92003 | 16.1 | .07997 |
| I. 195 | 0.17621 | 52.2 | 0.25603 | 36.1 | 9.92019 | 16.1 | 0.07981 |
| .196 | .17674 | 52.2 | .25639 | 36.2 | .92035 | 16.0 | .07965 |
| .197 | .17726 | 52.2 | .25675 | 36.2 | .92051 | 16.0 | .07949 |
| .198 | .17778 | 52.1 | .25711 | 36.2 | .92067 | 16.0 | .07933 |
| .199 | .17830 | 52.1 | .25747 | 36.2 | .92083 | 15.9 | .07917 |
| I. 200 | 0.17882 | 52.1 | 0.25784 | 36.2 | 9.92099 | 15.9 | 0.07901 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 200 | 0.17882 | 52.1 | 0.25784 | 36.2 | 9.92099 | 15.9 | 0.07901 |
| .201 | .17934 | 52.1 | .25820 | 36.2 | .92114 | 15.9 | .07886 |
| .202 | .17985 | 52.1 | .25856 | 36.2 | .92130 | 15.8 | .07870 |
| .203 | .18038 | 52.0 | .25892 | 36.2 | .92146 | 15.8 | .07854 |
| .204 | .18090 | 52.0 | .25929 | 36.3 | .92162 | 15.8 | .07838 |
| I. 205 | 0.18142 | 52.0 | 0.25965 | 36.3 | 9.92178 | 15.7 | 0.07822 |
| .206 | .18194 | 52.0 | .26001 | 36.3 | .92193 | 15.7 | .07807 |
| .207 | .18246 | 52.0 | .26037 | 36.3 | .92209 | 15.7 | .07791 |
| .208 | .18298 | 51.9 | .26074 | 36.3 | .92225 | 15.6 | .07775 |
| .209 | .18350 | 51.9 | .26110 | 36.3 | .92240 | 15.6 | .07760 |
| I. 210 | 0.18402 | 51.9 | 0.26146 | 36.3 | 9.92256 | 15.6 | 0.07744 |
| .211 | .18454 | 51.9 | .26183 | 36.3 | .92271 | 15.5 | .07729 |
| .212 | .18506 | 51.9 | .26219 | 36.4 | .92287 | 15.5 | .07713 |
| .213 | .18558 | 51.9 | .26255 | 36.4 | .92302 | 15.5 | .07698 |
| .214 | .18610 | 51.8 | .26292 | 36.4 | .92318 | 15.4 | .07682 |
| I. 215 | 0.18662 | 51.8 | 0.26328 | 36.4 | 9.92333 | 15.4 | 0.07667 |
| .216 | .18713 | 51.8 | .26365 | 36.4 | .92349 | 15.4 | .07651 |
| .217 | .18765 | 51.8 | .26401 | 36.4 | .92364 | 15.4 | .07636 |
| .218 | .18817 | 51.8 | .26437 | 36.4 | .92379 | 15.3 | .07621 |
| .219 | .18869 | 51.7 | .26474 | 36.5 | .92395 | 15.3 | .07605 |
| I. 220 | 0.18920 | 51.7 | 0.26510 | 36.5 | 9.92410 | 15.3 | 0.07590 |
| .221 | .18972 | 51.7 | .26547 | 36.5 | .92425 | 15.2 | .07575 |
| .222 | .19024 | 51.7 | .26583 | 36.5 | .92440 | 15.2 | .07560 |
| .223 | .19075 | 51.7 | .26620 | 36.5 | .92456 | 15.2 | .07544 |
| .224 | .19127 | 51.7 | .26656 | 36.5 | .92471 | 15.1 | .07529 |
| I. 225 | 0.19179 | 51.6 | 0.26693 | 36.5 | 9.92486 | 15.1 | 0.07514 |
| .226 | .19230 | 51.6 | .26729 | 36.5 | .92501 | 15.1 | .07499 |
| .227 | .19282 | 51.6 | .26766 | 36.6 | .92516 | 15.0 | .07484 |
| .228 | .19334 | 51.6 | .26802 | 36.6 | .92531 | 15.0 | .07469 |
| .229 | .19385 | 51.6 | .26839 | 36.6 | .92546 | 15.0 | .07454 |
| I. 230 | 0.19437 | 51.5 | 0.26876 | 36.6 | 9.92561 | 15.0 | 0.07439 |
| .231 | .19488 | 51.5 | .26912 | 36.6 | .92576 | 14.9 | .07424 |
| .232 | .19540 | 51.5 | .26949 | 36.6 | .92591 | 14.9 | .07409 |
| .233 | .19591 | 51.5 | .26985 | 36.6 | .92606 | 14.9 | .07394 |
| .234 | .19643 | 51.5 | .27022 | 36.6 | .92621 | 14.8 | .07379 |
| I. 235 | 0.19694 | 51.5 | 0.27059 | 36.7 | 9.92635 | 14.8 | 0.07365 |
| .236 | .19746 | 51.4 | .27095 | 36.7 | .92650 | 14.8 | .07350 |
| .237 | .19797 | 51.4 | .27132 | 36.7 | .92665 | 14.7 | .07335 |
| .238 | .19848 | 51.4 | .27169 | 36.7 | .92680 | 14.7 | .07320 |
| .239 | .19900 | 51.4 | .27205 | 36.7 | .92694 | 14.7 | .07306 |
| I. 240 | 0.19951 | 51.4 | 0.27242 | 36.7 | 9.92709 | 14.7 | 0.07291 |
| .241 | .20003 | 51.4 | .27279 | 36.7 | .92724 | 14.6 | .07276 |
| .242 | .20054 | 51.3 | .27316 | 36.7 | .92738 | 14.6 | .07262 |
| .243 | .20105 | 51.3 | .27352 | 36.8 | .92753 | 14.6 | .07247 |
| .244 | .20157 | 51.3 | .27389 | 36.8 | .92767 | 14.5 | .07233 |
| I. 245 | 0.20208 | 51.3 | 0.27426 | 36.8 | 9.92782 | 14.5 | 0.07218 |
| .246 | .20259 | 51.3 | .27463 | 36.8 | .92796 | 14.5 | .07204 |
| .247 | .20310 | 51.2 | .27499 | 36.8 | .92811 | 14.4 | .07189 |
| .248 | .20362 | 51.2 | .27536 | 36.8 | .92825 | 14.4 | .07175 |
| .249 | .20413 | 51.2 | .27573 | 36.8 | .92840 | 14.4 | .07160 |
| I. 250 | 0.20464 | 51.2 | 0.27610 | 36.8 | 9.92854 | 14.4 | 0.07146 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 250 | 0.20464 | 51,2 | 0.27610 | 36,8 | 9.92854 | 14,4 | 0.07146 |
| .251 | .20515 | 51,2 | .27647 | 36,9 | .92868 | 14,3 | .07132 |
| .252 | .20566 | 51,2 | .27684 | 36,9 | .92883 | 14,3 | .07117 |
| .253 | .20618 | 51,1 | .27721 | 36,9 | .92897 | 14,3 | .07103 |
| .254 | .20669 | 51,1 | .27757 | 36,9 | .92911 | 14,2 | .07089 |
| I. 255 | 0.20720 | 51,1 | 0.27794 | 36,9 | 9.92926 | 14,2 | 0.07074 |
| .256 | .20771 | 51,1 | .27831 | 36,9 | .92940 | 14,2 | .07060 |
| .257 | .20822 | 51,1 | .27868 | 36,9 | .92954 | 14,2 | .07046 |
| .258 | .20873 | 51,1 | .27905 | 36,9 | .92968 | 14,1 | .07032 |
| .259 | .20924 | 51,0 | .27942 | 36,9 | .92982 | 14,1 | .07018 |
| I. 260 | 0.20975 | 51,0 | 0.27979 | 37,0 | 9.92996 | 14,1 | 0.07004 |
| .261 | .21026 | 51,0 | .28016 | 37,0 | .93010 | 14,0 | .06990 |
| .262 | .21077 | 51,0 | .28053 | 37,0 | .93024 | 14,0 | .06976 |
| .263 | .21128 | 51,0 | .28090 | 37,0 | .93038 | 14,0 | .06962 |
| .264 | .21179 | 51,0 | .28127 | 37,0 | .93052 | 14,0 | .06948 |
| I. 265 | 0.21230 | 50,9 | 0.28164 | 37,0 | 9.93066 | 13,9 | 0.06934 |
| .266 | .21281 | 50,9 | .28201 | 37,0 | .93080 | 13,9 | .06920 |
| .267 | .21332 | 50,9 | .28238 | 37,0 | .93094 | 13,9 | .06906 |
| .268 | .21383 | 50,9 | .28275 | 37,1 | .93108 | 13,8 | .06892 |
| .269 | .21434 | 50,9 | .28312 | 37,1 | .93122 | 13,8 | .06878 |
| I. 270 | 0.21485 | 50,9 | 0.28349 | 37,1 | 9.93135 | 13,8 | 0.06865 |
| .271 | .21536 | 50,9 | .28386 | 37,1 | .93149 | 13,8 | .06851 |
| .272 | .21586 | 50,8 | .28423 | 37,1 | .93163 | 13,7 | .06837 |
| .273 | .21637 | 50,8 | .28460 | 37,1 | .93177 | 13,7 | .06823 |
| .274 | .21688 | 50,8 | .28498 | 37,1 | .93190 | 13,7 | .06810 |
| I. 275 | 0.21739 | 50,8 | 0.28535 | 37,1 | 9.93204 | 13,6 | 0.06796 |
| .276 | .21790 | 50,8 | .28572 | 37,2 | .93218 | 13,6 | .06782 |
| .277 | .21840 | 50,8 | .28609 | 37,2 | .93231 | 13,6 | .06769 |
| .278 | .21891 | 50,7 | .28646 | 37,2 | .93245 | 13,6 | .06755 |
| .279 | .21942 | 50,7 | .28683 | 37,2 | .93258 | 13,5 | .06742 |
| I. 280 | 0.21993 | 50,7 | 0.28721 | 37,2 | 9.93272 | 13,5 | 0.06728 |
| .281 | .22043 | 50,7 | .28758 | 37,2 | .93285 | 13,5 | .06715 |
| .282 | .22094 | 50,7 | .28795 | 37,2 | .93299 | 13,5 | .06701 |
| .283 | .22145 | 50,7 | .28832 | 37,2 | .93312 | 13,4 | .06688 |
| .284 | .22195 | 50,6 | .28869 | 37,2 | .93326 | 13,4 | .06674 |
| I. 285 | 0.22246 | 50,6 | 0.28907 | 37,3 | 9.93339 | 13,4 | 0.06661 |
| .286 | .22296 | 50,6 | .28944 | 37,3 | .93353 | 13,3 | .06647 |
| .287 | .22347 | 50,6 | .28981 | 37,3 | .93366 | 13,3 | .06634 |
| .288 | .22398 | 50,6 | .29018 | 37,3 | .93379 | 13,3 | .06621 |
| .289 | .22448 | 50,6 | .29056 | 37,3 | .93392 | 13,3 | .06608 |
| I. 290 | 0.22499 | 50,6 | 0.29093 | 37,3 | 9.93406 | 13,2 | 0.06594 |
| .291 | .22549 | 50,5 | .29130 | 37,3 | .93419 | 13,2 | .06581 |
| .292 | .22600 | 50,5 | .29168 | 37,3 | .93432 | 13,2 | .06568 |
| .293 | .22650 | 50,5 | .29205 | 37,3 | .93445 | 13,2 | .06555 |
| .294 | .22701 | 50,5 | .29242 | 37,4 | .93458 | 13,1 | .06542 |
| I. 295 | 0.22751 | 50,5 | 0.29280 | 37,4 | 9.93472 | 13,1 | 0.06528 |
| .296 | .22802 | 50,5 | .29317 | 37,4 | .93485 | 13,1 | .06515 |
| .297 | .22852 | 50,4 | .29355 | 37,4 | .93498 | 13,1 | .06502 |
| .298 | .22903 | 50,4 | .29392 | 37,4 | .93511 | 13,0 | .06489 |
| .299 | .22953 | 50,4 | .29429 | 37,4 | .93524 | 13,0 | .06476 |
| I. 300 | 0.23004 | 50,4 | 0.29467 | 37,4 | 9.93537 | 13,0 | 0.06463 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 300 | 0.23004 | 50,4 | 0.29467 | 37,4 | 9.93537 | 13,0 | 0.06463 |
| .301 | .23054 | 50,4 | .29504 | 37,4 | .93550 | 12,9 | .06450 |
| .302 | .23104 | 50,4 | .29542 | 37,4 | .93563 | 12,9 | .06437 |
| .303 | .23155 | 50,4 | .29579 | 37,5 | .93576 | 12,9 | .06424 |
| .304 | .23205 | 50,3 | .29617 | 37,5 | .93588 | 12,9 | .06412 |
| I. 305 | 0.23255 | 50,3 | 0.29654 | 37,5 | 9.93601 | 12,8 | 0.06399 |
| .306 | .23306 | 50,3 | .29692 | 37,5 | .93614 | 12,8 | .06386 |
| .307 | .23356 | 50,3 | .29729 | 37,5 | .93627 | 12,8 | .06373 |
| .308 | .23406 | 50,3 | .29767 | 37,5 | .93640 | 12,8 | .06360 |
| .309 | .23457 | 50,3 | .29804 | 37,5 | .93652 | 12,7 | .06348 |
| I. 310 | 0.23507 | 50,2 | 0.29842 | 37,5 | 9.93665 | 12,7 | 0.06335 |
| .311 | .23557 | 50,2 | .29879 | 37,5 | .93678 | 12,7 | .06322 |
| .312 | .23607 | 50,2 | .29917 | 37,6 | .93691 | 12,7 | .06309 |
| .313 | .23657 | 50,2 | .29954 | 37,6 | .93703 | 12,6 | .06297 |
| .314 | .23708 | 50,2 | .29992 | 37,6 | .93716 | 12,6 | .06284 |
| I. 315 | 0.23758 | 50,2 | 0.30029 | 37,6 | 9.93728 | 12,6 | 0.06272 |
| .316 | .23808 | 50,2 | .30067 | 37,6 | .93741 | 12,6 | .06259 |
| .317 | .23858 | 50,1 | .30105 | 37,6 | .93754 | 12,5 | .06246 |
| .318 | .23908 | 50,1 | .30142 | 37,6 | .93766 | 12,5 | .06234 |
| .319 | .23958 | 50,1 | .30180 | 37,6 | .93779 | 12,5 | .06221 |
| I. 320 | 0.24009 | 50,1 | 0.30217 | 37,6 | 9.93791 | 12,5 | 0.06209 |
| .321 | .24059 | 50,1 | .30255 | 37,7 | .93804 | 12,4 | .06196 |
| .322 | .24109 | 50,1 | .30293 | 37,7 | .93816 | 12,4 | .06184 |
| .323 | .24159 | 50,1 | .30330 | 37,7 | .93828 | 12,4 | .06172 |
| .324 | .24209 | 50,0 | .30368 | 37,7 | .93841 | 12,4 | .06159 |
| I. 325 | 0.24259 | 50,0 | 0.30406 | 37,7 | 9.93853 | 12,3 | 0.06147 |
| .326 | .24309 | 50,0 | .30444 | 37,7 | .93865 | 12,3 | .06135 |
| .327 | .24359 | 50,0 | .30481 | 37,7 | .93878 | 12,3 | .06122 |
| .328 | .24409 | 50,0 | .30519 | 37,7 | .93890 | 12,3 | .06110 |
| .329 | .24459 | 50,0 | .30557 | 37,7 | .93902 | 12,2 | .06098 |
| I. 330 | 0.24509 | 50,0 | 0.30594 | 37,8 | 9.93914 | 12,2 | 0.06086 |
| .331 | .24559 | 49,9 | .30632 | 37,8 | .93927 | 12,2 | .06073 |
| .332 | .24609 | 49,9 | .30670 | 37,8 | .93939 | 12,2 | .06061 |
| .333 | .24659 | 49,9 | .30708 | 37,8 | .93951 | 12,1 | .06049 |
| .334 | .24709 | 49,9 | .30746 | 37,8 | .93963 | 12,1 | .06037 |
| I. 335 | 0.24759 | 49,9 | 0.30783 | 37,8 | 9.93975 | 12,1 | 0.06025 |
| .336 | .24808 | 49,9 | .30821 | 37,8 | .93987 | 12,1 | .06013 |
| .337 | .24858 | 49,9 | .30859 | 37,8 | .93999 | 12,0 | .06001 |
| .338 | .24908 | 49,9 | .30897 | 37,8 | .94011 | 12,0 | .05989 |
| .339 | .24958 | 49,8 | .30935 | 37,8 | .94023 | 12,0 | .05977 |
| I. 340 | 0.25008 | 49,8 | 0.30972 | 37,9 | 9.94035 | 12,0 | 0.05965 |
| .341 | .25058 | 49,8 | .31010 | 37,9 | .94047 | 11,9 | .05953 |
| .342 | .25107 | 49,8 | .31048 | 37,9 | .94059 | 11,9 | .05941 |
| .343 | .25157 | 49,8 | .31086 | 37,9 | .94071 | 11,9 | .05929 |
| .344 | .25207 | 49,8 | .31124 | 37,9 | .94083 | 11,9 | .05917 |
| I. 345 | 0.25257 | 49,8 | 0.31162 | 37,9 | 9.94095 | 11,8 | 0.05905 |
| .346 | .25306 | 49,7 | .31200 | 37,9 | .94107 | 11,8 | .05893 |
| .347 | .25356 | 49,7 | .31238 | 37,9 | .94119 | 11,8 | .05881 |
| .348 | .25406 | 49,7 | .31276 | 37,9 | .94130 | 11,8 | .05870 |
| .349 | .25456 | 49,7 | .31314 | 37,9 | .94142 | 11,8 | .05858 |
| I. 350 | 0.25505 | 49,7 | 0.31352 | 38,0 | 9.94154 | 11,7 | 0.05846 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 350 | 0.25505 | 49,7 | 0.31352 | 38,0 | 9.94154 | 11,7 | 0.05846 |
| .351 | .25555 | 49,7 | .31390 | 38,0 | .94166 | 11,7 | .05834 |
| .352 | .25605 | 49,7 | .31428 | 38,0 | .94177 | 11,7 | .05823 |
| .353 | .25654 | 49,6 | .31465 | 38,0 | .94189 | 11,7 | .05811 |
| .354 | .25704 | 49,6 | .31503 | 38,0 | .94201 | 11,6 | .05799 |
| I. 355 | 0.25754 | 49,6 | 0.31541 | 38,0 | 9.94212 | 11,6 | 0.05788 |
| .356 | .25803 | 49,6 | .31580 | 38,0 | .94224 | 11,6 | .05776 |
| .357 | .25853 | 49,6 | .31618 | 38,0 | .94235 | 11,6 | .05765 |
| .358 | .25902 | 49,6 | .31656 | 38,0 | .94247 | 11,5 | .05753 |
| .359 | .25952 | 49,6 | .31694 | 38,1 | .94258 | 11,5 | .05742 |
| I. 360 | 0.26002 | 49,6 | 0.31732 | 38,1 | 9.94270 | 11,5 | 0.05730 |
| .361 | .26051 | 49,5 | .31770 | 38,1 | .94281 | 11,5 | .05719 |
| .362 | .26101 | 49,5 | .31808 | 38,1 | .94293 | 11,4 | .05707 |
| .363 | .26150 | 49,5 | .31846 | 38,1 | .94304 | 11,4 | .05696 |
| .364 | .26200 | 49,5 | .31884 | 38,1 | .94316 | 11,4 | .05684 |
| I. 365 | 0.26249 | 49,5 | 0.31922 | 38,1 | 9.94327 | 11,4 | 0.05673 |
| .366 | .26299 | 49,5 | .31960 | 38,1 | .94338 | 11,4 | .05662 |
| .367 | .26348 | 49,5 | .31998 | 38,1 | .94350 | 11,3 | .05650 |
| .368 | .26398 | 49,5 | .32036 | 38,1 | .94361 | 11,3 | .05639 |
| .369 | .26447 | 49,4 | .32075 | 38,2 | .94372 | 11,3 | .05628 |
| I. 370 | 0.26496 | 49,4 | 0.32113 | 38,2 | 9.94384 | 11,3 | 0.05616 |
| .371 | .26546 | 49,4 | .32151 | 38,2 | .94395 | 11,2 | .05605 |
| .372 | .26595 | 49,4 | .32189 | 38,2 | .94406 | 11,2 | .05594 |
| .373 | .26645 | 49,4 | .32227 | 38,2 | .94417 | 11,2 | .05583 |
| .374 | .26694 | 49,4 | .32266 | 38,2 | .94429 | 11,2 | .05571 |
| I. 375 | 0.26743 | 49,4 | 0.32304 | 38,2 | 9.94440 | 11,2 | 0.05560 |
| .376 | .26793 | 49,3 | .32342 | 38,2 | .94451 | 11,1 | .05549 |
| .377 | .26842 | 49,3 | .32380 | 38,2 | .94462 | 11,1 | .05538 |
| .378 | .26891 | 49,3 | .32418 | 38,2 | .94473 | 11,1 | .05527 |
| .379 | .26941 | 49,3 | .32457 | 38,2 | .94484 | 11,1 | .05516 |
| I. 380 | 0.26990 | 49,3 | 0.32495 | 38,3 | 9.94495 | 11,0 | 0.05505 |
| .381 | .27039 | 49,3 | .32533 | 38,3 | .94506 | 11,0 | .05494 |
| .382 | .27089 | 49,3 | .32571 | 38,3 | .94517 | 11,0 | .05483 |
| .383 | .27138 | 49,3 | .32610 | 38,3 | .94528 | 11,0 | .05472 |
| .384 | .27187 | 49,2 | .32648 | 38,3 | .94539 | 11,0 | .05461 |
| I. 385 | 0.27236 | 49,2 | 0.32686 | 38,3 | 9.94550 | 10,9 | 0.05450 |
| .386 | .27286 | 49,2 | .32725 | 38,3 | .94561 | 10,9 | .05439 |
| .387 | .27335 | 49,2 | .32763 | 38,3 | .94572 | 10,9 | .05428 |
| .388 | .27384 | 49,2 | .32801 | 38,3 | .94583 | 10,9 | .05417 |
| .389 | .27433 | 49,2 | .32840 | 38,3 | .94594 | 10,8 | .05406 |
| I. 390 | 0.27482 | 49,2 | 0.32878 | 38,4 | 9.94604 | 10,8 | 0.05396 |
| .391 | .27532 | 49,2 | .32916 | 38,4 | .94615 | 10,8 | .05385 |
| .392 | .27581 | 49,2 | .32955 | 38,4 | .94626 | 10,8 | .05374 |
| .393 | .27630 | 49,1 | .32993 | 38,4 | .94637 | 10,8 | .05363 |
| .394 | .27679 | 49,1 | .33031 | 38,4 | .94648 | 10,7 | .05352 |
| I. 395 | 0.27728 | 49,1 | 0.33070 | 38,4 | 9.94658 | 10,7 | 0.05342 |
| .396 | .27777 | 49,1 | .33108 | 38,4 | .94669 | 10,7 | .05331 |
| .397 | .27826 | 49,1 | .33147 | 38,4 | .94680 | 10,7 | .05320 |
| .398 | .27875 | 49,1 | .33185 | 38,4 | .94690 | 10,6 | .05310 |
| .399 | .27925 | 49,1 | .33224 | 38,4 | .94701 | 10,6 | .05299 |
| I. 400 | 0.27974 | 49,1 | 0.33262 | 38,5 | 9.94712 | 10,6 | 0.05288 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 400 | 0.27074 | 49,1 | 0.33262 | 38,5 | 9.94712 | 10,6 | 0.05288 |
| .401 | .28023 | 49,0 | .33300 | 38,5 | .94722 | 10,6 | .05278 |
| .402 | .28072 | 49,0 | .33339 | 38,5 | .94733 | 10,6 | .05267 |
| .403 | .28121 | 49,0 | .33377 | 38,5 | .94743 | 10,5 | .05257 |
| .404 | .28170 | 49,0 | .33416 | 38,5 | .94754 | 10,5 | .05246 |
| I. 405 | 0.28219 | 49,0 | 0.33454 | 38,5 | 9.94764 | 10,5 | 0.05236 |
| .406 | .28268 | 49,0 | .33493 | 38,5 | .94775 | 10,5 | .05225 |
| .407 | .28317 | 49,0 | .33531 | 38,5 | .94785 | 10,5 | .05215 |
| .408 | .28366 | 49,0 | .33570 | 38,5 | .94796 | 10,4 | .05204 |
| .409 | .28415 | 48,9 | .33608 | 38,5 | .94806 | 10,4 | .05194 |
| I. 410 | 0.28464 | 48,9 | 0.33647 | 38,5 | 9.94817 | 10,4 | 0.05183 |
| .411 | .28512 | 48,9 | .33686 | 38,6 | .94827 | 10,4 | .05173 |
| .412 | .28561 | 48,9 | .33724 | 38,6 | .94837 | 10,3 | .05163 |
| .413 | .28610 | 48,9 | .33763 | 38,6 | .94848 | 10,3 | .05152 |
| .414 | .28659 | 48,9 | .33801 | 38,6 | .94858 | 10,3 | .05142 |
| I. 415 | 0.28708 | 48,9 | 0.33840 | 38,6 | 9.94868 | 10,3 | 0.05132 |
| .416 | .28757 | 48,9 | .33878 | 38,6 | .94879 | 10,3 | .05121 |
| .417 | .28806 | 48,9 | .33917 | 38,6 | .94889 | 10,2 | .05111 |
| .418 | .28855 | 48,8 | .33956 | 38,6 | .94899 | 10,2 | .05101 |
| .419 | .28903 | 48,8 | .33994 | 38,6 | .94909 | 10,2 | .05091 |
| I. 420 | 0.28952 | 48,8 | 0.34033 | 38,6 | 9.94919 | 10,2 | 0.05081 |
| .421 | .29001 | 48,8 | .34071 | 38,6 | .94930 | 10,2 | .05070 |
| .422 | .29050 | 48,8 | .34110 | 38,7 | .94940 | 10,1 | .05060 |
| .423 | .29099 | 48,8 | .34149 | 38,7 | .94950 | 10,1 | .05050 |
| .424 | .29147 | 48,8 | .34187 | 38,7 | .94960 | 10,1 | .05040 |
| I. 425 | 0.29196 | 48,8 | 0.34226 | 38,7 | 9.94970 | 10,1 | 0.05030 |
| .426 | .29245 | 48,8 | .34265 | 38,7 | .94980 | 10,1 | .05020 |
| .427 | .29294 | 48,7 | .34304 | 38,7 | .94990 | 10,0 | .05010 |
| .428 | .29342 | 48,7 | .34342 | 38,7 | .95000 | 10,0 | .05000 |
| .429 | .29391 | 48,7 | .34381 | 38,7 | .95010 | 10,0 | .04990 |
| I. 430 | 0.29440 | 48,7 | 0.34420 | 38,7 | 9.95020 | 10,0 | 0.04980 |
| .431 | .29489 | 48,7 | .34458 | 38,7 | .95030 | 10,0 | .04970 |
| .432 | .29537 | 48,7 | .34497 | 38,7 | .95040 | 9,9 | .04960 |
| .433 | .29586 | 48,7 | .34536 | 38,8 | .95050 | 9,9 | .04950 |
| .434 | .29635 | 48,7 | .34575 | 38,8 | .95060 | 9,9 | .04940 |
| I. 435 | 0.29683 | 48,7 | 0.34613 | 38,8 | 9.95070 | 9,9 | 0.04930 |
| .436 | .29732 | 48,6 | .34652 | 38,8 | .95080 | 9,9 | .04920 |
| .437 | .29781 | 48,6 | .34691 | 38,8 | .95090 | 9,8 | .04910 |
| .438 | .29829 | 48,6 | .34730 | 38,8 | .95099 | 9,8 | .04901 |
| .439 | .29878 | 48,6 | .34769 | 38,8 | .95109 | 9,8 | .04891 |
| I. 440 | 0.29926 | 48,6 | 0.34807 | 38,8 | 9.95119 | 9,8 | 0.04881 |
| .441 | .29975 | 48,6 | .34846 | 38,8 | .95129 | 9,8 | .04871 |
| .442 | .30024 | 48,6 | .34885 | 38,8 | .95139 | 9,7 | .04861 |
| .443 | .30072 | 48,6 | .34924 | 38,8 | .95148 | 9,7 | .04852 |
| .444 | .30121 | 48,6 | .34963 | 38,8 | .95158 | 9,7 | .04842 |
| I. 445 | 0.30169 | 48,5 | 0.35002 | 38,9 | 9.95168 | 9,7 | 0.04832 |
| .446 | .30218 | 48,5 | .35040 | 38,9 | .95177 | 9,7 | .04823 |
| .447 | .30266 | 48,5 | .35079 | 38,9 | .95187 | 9,6 | .04813 |
| .448 | .30315 | 48,5 | .35118 | 38,9 | .95197 | 9,6 | .04803 |
| .449 | .30363 | 48,5 | .35157 | 38,9 | .95206 | 9,6 | .04794 |
| I. 450 | 0.30412 | 48,5 | 0.35196 | 38,9 | 9.95216 | 9,6 | 0.04784 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I.450 | 0.30412 | 48,5 | 0.35196 | 38,9 | 9.95216 | 9,6 | 0.04784 |
| .451 | .30460 | 48,5 | .35235 | 38,9 | .95225 | 9,6 | .04775 |
| .452 | .30509 | 48,5 | .35274 | 38,9 | .95235 | 9,5 | .04765 |
| .453 | .30557 | 48,5 | .35313 | 38,9 | .95245 | 9,5 | .04755 |
| .454 | .30606 | 48,4 | .35352 | 38,9 | .95254 | 9,5 | .04746 |
| I.455 | 0.30654 | 48,4 | 0.35391 | 38,9 | 9.95264 | 9,5 | 0.04736 |
| .456 | .30703 | 48,4 | .35429 | 39,0 | .95273 | 9,5 | .04727 |
| .457 | .30751 | 48,4 | .35468 | 39,0 | .95283 | 9,5 | .04717 |
| .458 | .30799 | 48,4 | .35507 | 39,0 | .95292 | 9,4 | .04708 |
| .459 | .30848 | 48,4 | .35546 | 39,0 | .95301 | 9,4 | .04699 |
| I.460 | 0.30896 | 48,4 | 0.35585 | 39,0 | 9.95311 | 9,4 | 0.04689 |
| .461 | .30945 | 48,4 | .35624 | 39,0 | .95320 | 9,4 | .04680 |
| .462 | .30993 | 48,4 | .35663 | 39,0 | .95330 | 9,4 | .04670 |
| .463 | .31041 | 48,3 | .35702 | 39,0 | .95339 | 9,3 | .04661 |
| .464 | .31090 | 48,3 | .35741 | 39,0 | .95348 | 9,3 | .04652 |
| I.465 | 0.31138 | 48,3 | 0.35780 | 39,0 | 9.95358 | 9,3 | 0.04642 |
| .466 | .31186 | 48,3 | .35819 | 39,0 | .95367 | 9,3 | .04633 |
| .467 | .31235 | 48,3 | .35858 | 39,0 | .95376 | 9,3 | .04624 |
| .468 | .31283 | 48,3 | .35897 | 39,1 | .95385 | 9,2 | .04615 |
| .469 | .31331 | 48,3 | .35937 | 39,1 | .95395 | 9,2 | .04605 |
| I.470 | 0.31379 | 48,3 | 0.35976 | 39,1 | 9.95404 | 9,2 | 0.04596 |
| .471 | .31428 | 48,3 | .36015 | 39,1 | .95413 | 9,2 | .04587 |
| .472 | .31476 | 48,3 | .36054 | 39,1 | .95422 | 9,2 | .04578 |
| .473 | .31524 | 48,2 | .36093 | 39,1 | .95431 | 9,2 | .04569 |
| .474 | .31572 | 48,2 | .36132 | 39,1 | .95441 | 9,1 | .04559 |
| I.475 | 0.31621 | 48,2 | 0.36171 | 39,1 | 9.95450 | 9,1 | 0.04550 |
| .476 | .31669 | 48,2 | .36210 | 39,1 | .95459 | 9,1 | .04541 |
| .477 | .31717 | 48,2 | .36249 | 39,1 | .95468 | 9,1 | .04532 |
| .478 | .31765 | 48,2 | .36288 | 39,1 | .95477 | 9,1 | .04523 |
| .479 | .31814 | 48,2 | .36328 | 39,1 | .95486 | 9,0 | .04514 |
| I.480 | 0.31862 | 48,2 | 0.36367 | 39,2 | 9.95495 | 9,0 | 0.04505 |
| .481 | .31910 | 48,2 | .36406 | 39,2 | .95504 | 9,0 | .04496 |
| .482 | .31958 | 48,2 | .36445 | 39,2 | .95513 | 9,0 | .04487 |
| .483 | .32006 | 48,1 | .36484 | 39,2 | .95522 | 9,0 | .04478 |
| .484 | .32054 | 48,1 | .36523 | 39,2 | .95531 | 9,0 | .04469 |
| I.485 | 0.32102 | 48,1 | 0.36563 | 39,2 | 9.95540 | 8,9 | 0.04460 |
| .486 | .32151 | 48,1 | .36602 | 39,2 | .95549 | 8,9 | .04451 |
| .487 | .32199 | 48,1 | .36641 | 39,2 | .95558 | 8,9 | .04442 |
| .488 | .32247 | 48,1 | .36680 | 39,2 | .95567 | 8,9 | .04433 |
| .489 | .32295 | 48,1 | .36719 | 39,2 | .95576 | 8,9 | .04424 |
| I.490 | 0.32343 | 48,1 | 0.36759 | 39,2 | 9.95584 | 8,8 | 0.04416 |
| .491 | .32391 | 48,1 | .36798 | 39,2 | .95593 | 8,8 | .04407 |
| .492 | .32439 | 48,1 | .36837 | 39,2 | .95602 | 8,8 | .04398 |
| .493 | .32487 | 48,0 | .36876 | 39,3 | .95611 | 8,8 | .04389 |
| .494 | .32535 | 48,0 | .36916 | 39,3 | .95620 | 8,8 | .04380 |
| I.495 | 0.32583 | 48,0 | 0.36955 | 39,3 | 9.95628 | 8,8 | 0.04372 |
| .496 | .32631 | 48,0 | .36994 | 39,3 | .95637 | 8,7 | .04363 |
| .497 | .32679 | 48,0 | .37033 | 39,3 | .95646 | 8,7 | .04354 |
| .498 | .32727 | 48,0 | .37073 | 39,3 | .95655 | 8,7 | .04345 |
| .499 | .32775 | 48,0 | .37112 | 39,3 | .95663 | 8,7 | .04337 |
| I.500 | 0.32823 | 48,0 | 0.37151 | 39,3 | 9.95672 | 8,7 | 0.04328 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|
| I. 500 | 0.32823 | 48,0 | 0.37151 | 39,3 | 9.95672 | 8,7 | 0.04328 |
| .501 | .32871 | 48,0 | .37191 | 39,3 | .95681 | 8,7 | .04319 |
| .502 | .32919 | 48,0 | .37230 | 39,3 | .95689 | 8,6 | .04311 |
| .503 | .32967 | 48,0 | .37269 | 39,3 | .95698 | 8,6 | .04302 |
| .504 | .33015 | 47,9 | .37309 | 39,3 | .95707 | 8,6 | .04293 |
| I. 505 | 0.33063 | 47,9 | 0.37348 | 39,3 | 9.95715 | 8,6 | 0.04285 |
| .506 | .33111 | 47,9 | .37387 | 39,4 | .95724 | 8,6 | .04276 |
| .507 | .33159 | 47,9 | .37427 | 39,4 | .95732 | 8,5 | .04268 |
| .508 | .33207 | 47,9 | .37466 | 39,4 | .95741 | 8,5 | .04259 |
| .509 | .33255 | 47,9 | .37505 | 39,4 | .95749 | 8,5 | .04251 |
| I. 510 | 0.33303 | 47,9 | 0.37545 | 39,4 | 9.95758 | 8,5 | 0.04242 |
| .511 | .33350 | 47,9 | .37584 | 39,4 | .95766 | 8,5 | .04234 |
| .512 | .33398 | 47,9 | .37624 | 39,4 | .95775 | 8,5 | .04225 |
| .513 | .33446 | 47,9 | .37663 | 39,4 | .95783 | 8,4 | .04217 |
| .514 | .33494 | 47,8 | .37702 | 39,4 | .95792 | 8,4 | .04208 |
| I. 515 | 0.33542 | 47,8 | 0.37742 | 39,4 | 9.95800 | 8,4 | 0.04200 |
| .516 | .33590 | 47,8 | .37781 | 39,4 | .95808 | 8,4 | .04192 |
| .517 | .33638 | 47,8 | .37821 | 39,4 | .95817 | 8,4 | .04183 |
| .518 | .33685 | 47,8 | .37860 | 39,4 | .95825 | 8,4 | .04175 |
| .519 | .33733 | 47,8 | .37900 | 39,5 | .95834 | 8,3 | .04166 |
| I. 520 | 0.33781 | 47,8 | 0.37939 | 39,5 | 9.95842 | 8,3 | 0.04158 |
| .521 | .33829 | 47,8 | .37979 | 39,5 | .95850 | 8,3 | .04150 |
| .522 | .33877 | 47,8 | .38018 | 39,5 | .95859 | 8,3 | .04141 |
| .523 | .33924 | 47,8 | .38057 | 39,5 | .95867 | 8,3 | .04133 |
| .524 | .33972 | 47,8 | .38097 | 39,5 | .95875 | 8,3 | .04125 |
| I. 525 | 0.34020 | 47,7 | 0.38136 | 39,5 | 9.95883 | 8,2 | 0.04117 |
| .526 | .34068 | 47,7 | .38176 | 39,5 | .95892 | 8,2 | .04108 |
| .527 | .34115 | 47,7 | .38215 | 39,5 | .95900 | 8,2 | .04100 |
| .528 | .34163 | 47,7 | .38255 | 39,5 | .95908 | 8,2 | .04092 |
| .529 | .34211 | 47,7 | .38295 | 39,5 | .95916 | 8,2 | .04084 |
| I. 530 | 0.34258 | 47,7 | 0.38334 | 39,5 | 9.95924 | 8,2 | 0.04076 |
| .531 | .34306 | 47,7 | .38374 | 39,5 | .95933 | 8,1 | .04067 |
| .532 | .34354 | 47,7 | .38413 | 39,6 | .95941 | 8,1 | .04059 |
| .533 | .34402 | 47,7 | .38453 | 39,6 | .95949 | 8,1 | .04051 |
| .534 | .34449 | 47,7 | .38492 | 39,6 | .95957 | 8,1 | .04043 |
| I. 535 | 0.34497 | 47,7 | 0.38532 | 39,6 | 9.95965 | 8,1 | 0.04035 |
| .536 | .34545 | 47,6 | .38571 | 39,6 | .95973 | 8,1 | .04027 |
| .537 | .34592 | 47,6 | .38611 | 39,6 | .95981 | 8,0 | .04019 |
| .538 | .34640 | 47,6 | .38651 | 39,6 | .95989 | 8,0 | .04011 |
| .539 | .34687 | 47,6 | .38690 | 39,6 | .95997 | 8,0 | .04003 |
| I. 540 | 0.34735 | 47,6 | 0.38730 | 39,6 | 9.96005 | 8,0 | 0.03995 |
| .541 | .34783 | 47,6 | .38769 | 39,6 | .96013 | 8,0 | .03987 |
| .542 | .34830 | 47,6 | .38809 | 39,6 | .96021 | 8,0 | .03979 |
| .543 | .34878 | 47,6 | .38849 | 39,6 | .96029 | 8,0 | .03971 |
| .544 | .34925 | 47,6 | .38888 | 39,6 | .96037 | 7,9 | .03963 |
| I. 545 | 0.34973 | 47,6 | 0.38928 | 39,6 | 9.96045 | 7,9 | 0.03955 |
| .546 | .35021 | 47,6 | .38968 | 39,7 | .96053 | 7,9 | .03947 |
| .547 | .35068 | 47,6 | .39007 | 39,7 | .96061 | 7,9 | .03939 |
| .548 | .35116 | 47,5 | .39047 | 39,7 | .96069 | 7,9 | .03931 |
| .549 | .35163 | 47,5 | .39087 | 39,7 | .96077 | 7,9 | .03923 |
| I. 550 | 0.35211 | 47,5 | 0.39126 | 39,7 | 9.96084 | 7,8 | 0.03916 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log cose gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 550 | 0.35211 | 47,5 | 0.39126 | 39,7 | 9.96084 | 7,8 | 0.03916 |
| .551 | .35258 | 47,5 | .39166 | 39,7 | .96092 | 7,8 | .03908 |
| .552 | .35306 | 47,5 | .39206 | 39,7 | .96100 | 7,8 | .03900 |
| .553 | .35353 | 47,5 | .39245 | 39,7 | .96108 | 7,8 | .03892 |
| .554 | .35401 | 47,5 | .39285 | 39,7 | .96116 | 7,8 | .03884 |
| I. 555 | 0.35448 | 47,5 | 0.39325 | 39,7 | 9.96123 | 7,8 | 0.03877 |
| .556 | .35496 | 47,5 | .39365 | 39,7 | .96131 | 7,7 | .03869 |
| .557 | .35543 | 47,5 | .39404 | 39,7 | .96139 | 7,7 | .03861 |
| .558 | .35591 | 47,5 | .39444 | 39,7 | .96147 | 7,7 | .03853 |
| .559 | .35638 | 47,5 | .39484 | 39,7 | .96154 | 7,7 | .03846 |
| I. 560 | 0.35686 | 47,4 | 0.39524 | 39,8 | 9.96162 | 7,7 | 0.03838 |
| .561 | .35733 | 47,4 | .39563 | 39,8 | .96170 | 7,7 | .03830 |
| .562 | .35780 | 47,4 | .39603 | 39,8 | .96177 | 7,7 | .03823 |
| .563 | .35828 | 47,4 | .39643 | 39,8 | .96185 | 7,6 | .03815 |
| .564 | .35875 | 47,4 | .39683 | 39,8 | .96193 | 7,6 | .03807 |
| I. 565 | 0.35923 | 47,4 | 0.39722 | 39,8 | 9.96200 | 7,6 | 0.03800 |
| .566 | .35970 | 47,4 | .39762 | 39,8 | .96208 | 7,6 | .03792 |
| .567 | .36017 | 47,4 | .39802 | 39,8 | .96215 | 7,6 | .03785 |
| .568 | .36065 | 47,4 | .39842 | 39,8 | .96223 | 7,6 | .03777 |
| .569 | .36112 | 47,4 | .39882 | 39,8 | .96231 | 7,5 | .03769 |
| I. 570 | 0.36160 | 47,4 | 0.39921 | 39,8 | 9.96238 | 7,5 | 0.03762 |
| .571 | .36207 | 47,4 | .39961 | 39,8 | .96246 | 7,5 | .03754 |
| .572 | .36254 | 47,3 | .40001 | 39,8 | .96253 | 7,5 | .03747 |
| .573 | .36302 | 47,3 | .40041 | 39,8 | .96261 | 7,5 | .03739 |
| .574 | .36349 | 47,3 | .40081 | 39,9 | .96268 | 7,5 | .03732 |
| I. 575 | 0.36396 | 47,3 | 0.40121 | 39,9 | 9.96276 | 7,5 | 0.03724 |
| .576 | .36444 | 47,3 | .40161 | 39,9 | .96283 | 7,4 | .03717 |
| .577 | .36491 | 47,3 | .40200 | 39,9 | .96291 | 7,4 | .03709 |
| .578 | .36538 | 47,3 | .40240 | 39,9 | .96298 | 7,4 | .03702 |
| .579 | .36585 | 47,3 | .40280 | 39,9 | .96305 | 7,4 | .03695 |
| I. 580 | 0.36633 | 47,3 | 0.40320 | 39,9 | 9.96313 | 7,4 | 0.03687 |
| .581 | .36680 | 47,3 | .40360 | 39,9 | .96320 | 7,4 | .03680 |
| .582 | .36727 | 47,3 | .40400 | 39,9 | .96327 | 7,4 | .03673 |
| .583 | .36775 | 47,3 | .40440 | 39,9 | .96335 | 7,3 | .03665 |
| .584 | .36822 | 47,2 | .40480 | 39,9 | .96342 | 7,3 | .03658 |
| I. 585 | 0.36869 | 47,2 | 0.40520 | 39,9 | 9.96349 | 7,3 | 0.03651 |
| .586 | .36916 | 47,2 | .40560 | 39,9 | .96357 | 7,3 | .03643 |
| .587 | .36964 | 47,2 | .40599 | 39,9 | .96364 | 7,3 | .03636 |
| .588 | .37011 | 47,2 | .40639 | 39,9 | .96371 | 7,3 | .03629 |
| .589 | .37058 | 47,2 | .40679 | 40,0 | .96379 | 7,3 | .03621 |
| I. 590 | 0.37105 | 47,2 | 0.40719 | 40,0 | 9.96386 | 7,2 | 0.03614 |
| .591 | .37152 | 47,2 | .40759 | 40,0 | .96393 | 7,2 | .03607 |
| .592 | .37200 | 47,2 | .40799 | 40,0 | .96400 | 7,2 | .03600 |
| .593 | .37247 | 47,2 | .40839 | 40,0 | .96407 | 7,2 | .03593 |
| .594 | .37294 | 47,2 | .40879 | 40,0 | .96415 | 7,2 | .03585 |
| I. 595 | 0.37341 | 47,2 | 0.40919 | 40,0 | 9.96422 | 7,2 | 0.03578 |
| .596 | .37388 | 47,2 | .40959 | 40,0 | .96429 | 7,2 | .03571 |
| .597 | .37435 | 47,1 | .40999 | 40,0 | .96436 | 7,1 | .03564 |
| .598 | .37482 | 47,1 | .41039 | 40,0 | .96443 | 7,1 | .03557 |
| .599 | .37530 | 47,1 | .41079 | 40,0 | .96450 | 7,1 | .03550 |
| I. 600 | 0.37577 | 47,1 | 0.41119 | 40,0 | 9.96457 | 7,1 | 0.03543 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | og sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 1.600 | 0.37577 | 47,1 | 0.41119 | 40,0 | 9.96457 | 7,1 | 0.03543 |
| .601 | .37624 | | .41159 | | .96465 | | .03535 |
| .602 | .37671 | | .41199 | | .96472 | | .03528 |
| .603 | .37718 | | .41239 | | .96479 | | .03521 |
| .604 | .37765 | | .41279 | 40,1 | .96486 | 7,0 | .03514 |
| 1.605 | 0.37812 | 47,1 | 0.41319 | 40,1 | 9.96493 | 7,0 | 0.03507 |
| .606 | .37859 | | .41360 | | .96500 | | .03500 |
| .607 | .37906 | | .41400 | | .96507 | | .03493 |
| .608 | .37953 | | .41440 | | .96514 | | .03486 |
| .609 | .38001 | | .41480 | | .96521 | | .03479 |
| 1.610 | 0.38048 | 47,0 | 0.41520 | 40,1 | 9.96528 | 7,0 | 0.03472 |
| .611 | .38095 | | .41560 | | .96535 | 6,9 | .03465 |
| .612 | .38142 | | .41600 | | .96542 | | .03458 |
| .613 | .38189 | | .41640 | | .96548 | | .03452 |
| .614 | .38236 | | .41680 | | .96555 | | .03445 |
| 1.615 | 0.38283 | 47,0 | 0.41720 | 40,1 | 9.96562 | 6,9 | 0.03438 |
| .616 | .38330 | | .41761 | | .96569 | | .03431 |
| .617 | .38377 | | .41801 | | .96576 | | .03424 |
| .618 | .38424 | | .41841 | | .96583 | 6,8 | .03417 |
| .619 | .38471 | | .41881 | | .96590 | | .03410 |
| 1.620 | 0.38518 | 47,0 | 0.41921 | 40,2 | 9.96597 | 6,8 | 0.03403 |
| .621 | .38565 | | .41961 | | .96603 | | .03397 |
| .622 | .38612 | | .42001 | | .96610 | | .03390 |
| .623 | .38659 | 46,9 | .42042 | | .96617 | | .03383 |
| .624 | .38705 | | .42082 | | .96624 | | .03376 |
| 1.625 | 0.38752 | 46,9 | 0.42122 | 40,2 | 9.96630 | 6,7 | 0.03370 |
| .626 | .38799 | | .42162 | | .96637 | | .03363 |
| .627 | .38846 | | .42202 | | .96644 | | .03356 |
| .628 | .38893 | | .42243 | | .96651 | | .03349 |
| .629 | .38940 | | .42283 | | .96657 | | .03343 |
| 1.630 | 0.38987 | 46,9 | 0.42323 | 40,2 | 9.96664 | 6,7 | 0.03336 |
| .631 | .39034 | | .42363 | | .96671 | | .03329 |
| .632 | .39081 | | .42403 | | .96677 | | .03323 |
| .633 | .39128 | | .42444 | | .96684 | 6,6 | .03316 |
| .634 | .39175 | | .42484 | | .96691 | | .03309 |
| 1.635 | 0.39221 | 46,9 | 0.42524 | 40,2 | 9.96697 | 6,6 | 0.03303 |
| .636 | .39268 | | .42564 | 40,3 | .96704 | | .03296 |
| .637 | .39315 | 46,8 | .42605 | | .96710 | | .03290 |
| .638 | .39362 | | .42645 | | .96717 | | .03283 |
| .639 | .39409 | | .42685 | | .96724 | | .03276 |
| 1.640 | 0.39456 | 46,8 | 0.42725 | 40,3 | 9.96730 | 6,5 | 0.03270 |
| .641 | .39502 | | .42766 | | .96737 | | .03263 |
| .642 | .39549 | | .42806 | | .96743 | | .03257 |
| .643 | .39596 | | .42846 | | .96750 | | .03250 |
| .644 | .39643 | | .42887 | | .96756 | | .03244 |
| 1.645 | 0.39690 | 46,8 | 0.42927 | 40,3 | 9.96763 | 6,5 | 0.03237 |
| .646 | .39736 | | .42967 | | .96769 | | .03231 |
| .647 | .39783 | | .43008 | | .96776 | | .03224 |
| .648 | .39830 | | .43048 | | .96782 | 6,4 | .03218 |
| .649 | .39877 | | .43088 | | .96788 | | .03212 |
| 1.650 | 0.39923 | 46,8 | 0.43129 | 40,3 | 9.96795 | 6,4 | 0.03205 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 650 | 0.39923 | 46,8 | 0.43129 | 40,3 | 9.96795 | 6,4 | 0.03205 |
| .651 | .39970 | 46,7 | .43169 | | .96801 | | .03199 |
| .652 | .40017 | | .43209 | 40,4 | .96808 | | .03192 |
| .653 | .40064 | | .43250 | | .96814 | | .03186 |
| .654 | .40110 | | .43290 | | .96820 | | .03180 |
| I. 655 | 0.40157 | 46,7 | 0.43330 | 40,4 | 9.96827 | 6,4 | 0.03173 |
| .656 | .40204 | | .43371 | | .96833 | 6,3 | .03167 |
| .657 | .40251 | | .43411 | | .96840 | | .03160 |
| .658 | .40297 | | .43451 | | .96846 | | .03154 |
| .659 | .40344 | | .43492 | | .96852 | | .03148 |
| I. 660 | 0.40391 | 46,7 | 0.43532 | 40,4 | 9.96858 | 6,3 | 0.03142 |
| .661 | .40437 | | .43573 | | .96865 | | .03135 |
| .662 | .40484 | | .43613 | | .96871 | | .03129 |
| .663 | .40531 | | .43653 | | .96877 | | .03123 |
| .664 | .40577 | | .43694 | | .96883 | 6,2 | .03117 |
| I. 665 | 0.40624 | 46,7 | 0.43734 | 40,4 | 9.96890 | 6,2 | 0.03110 |
| .666 | .40671 | 46,6 | .43775 | | .96896 | | .03104 |
| .667 | .40717 | | .43815 | | .96902 | | .03098 |
| .668 | .40764 | | .43856 | | .96908 | | .03092 |
| .669 | .40811 | | .43896 | 40,5 | .96915 | | .03085 |
| I. 670 | 0.40857 | 46,6 | 0.43937 | 40,5 | 9.96921 | 6,2 | 0.03079 |
| .671 | .40904 | | .43977 | | .96927 | | .03073 |
| .672 | .40950 | | .44017 | | .96933 | 6,1 | .03067 |
| .673 | .40997 | | .44058 | | .96939 | | .03061 |
| .674 | .41044 | | .44098 | | .96945 | | .03055 |
| I. 675 | 0.41090 | 46,6 | 0.44139 | 40,5 | 9.96951 | 6,1 | 0.03049 |
| .676 | .41137 | | .44179 | | .96957 | | .03043 |
| .677 | .41183 | | .44220 | | .96964 | | .03036 |
| .678 | .41230 | | .44260 | | .96970 | | .03030 |
| .679 | .41277 | | .44301 | | .96976 | | .03024 |
| I. 680 | 0.41323 | 46,6 | 0.44341 | 40,5 | 9.96982 | 6,0 | 0.03018 |
| .681 | .41370 | 46,5 | .44382 | | .96988 | | .03012 |
| .682 | .41416 | | .44422 | | .96994 | | .03006 |
| .683 | .41463 | | .44463 | | .97000 | | .03000 |
| .684 | .41509 | | .44503 | | .97006 | | .02994 |
| I. 685 | 0.41556 | 46,5 | 0.44544 | 40,5 | 9.97012 | 6,0 | 0.02988 |
| .686 | .41602 | | .44585 | | .97018 | | .02982 |
| .687 | .41649 | | .44625 | 40,6 | .97024 | | .02976 |
| .688 | .41695 | | .44666 | | .97030 | 5,9 | .02970 |
| .689 | .41742 | | .44706 | | .97036 | | .02964 |
| I. 690 | 0.41788 | 46,5 | 0.44747 | 40,6 | 9.97042 | 5,9 | 0.02958 |
| .691 | .41835 | | .44787 | | .97047 | | .02953 |
| .692 | .41881 | | .44828 | | .97053 | | .02947 |
| .693 | .41928 | | .44869 | | .97059 | | .02941 |
| .694 | .41974 | | .44909 | | .97065 | | .02935 |
| I. 695 | 0.42021 | 46,5 | 0.44950 | 40,6 | 9.97071 | 5,9 | 0.02929 |
| .696 | .42067 | | .44990 | | .97077 | | .02923 |
| .697 | .42114 | 46,4 | .45031 | | .97083 | 5,8 | .02917 |
| .698 | .42160 | | .45072 | | .97089 | | .02911 |
| .699 | .42207 | | .45112 | | .97094 | | .02906 |
| I. 700 | 0.42253 | 46,4 | 0.45153 | 40,6 | 9.97100 | 5,8 | 0.02900 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\infty F_0'$ | log cosh u | $\infty F_0'$ | log tanh u | $\infty F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 700 | 0.42253 | 46,4 | 0.45153 | 40,6 | 9.97100 | 5,8 | 0.02900 |
| .701 | .42299 | | .45193 | | .97106 | | .02894 |
| .702 | .42346 | | .45234 | | .97112 | | .02888 |
| .703 | .42392 | | .45275 | | .97118 | | .02882 |
| .704 | .42439 | | .45315 | | .97123 | | .02877 |
| I. 705 | 0.42485 | 46,4 | 0.45356 | 40,7 | 9.97129 | 5,7 | 0.02871 |
| .706 | .42531 | | .45397 | | .97135 | | .02865 |
| .707 | .42578 | | .45437 | | .97141 | | .02859 |
| .708 | .42624 | | .45478 | | .97146 | | .02854 |
| .709 | .42671 | | .45519 | | .97152 | | .02848 |
| I. 710 | 0.42717 | 46,4 | 0.45559 | 40,7 | 9.97158 | 5,7 | 0.02842 |
| .711 | .42763 | | .45600 | | .97163 | | .02837 |
| .712 | .42810 | | .45641 | | .97169 | | .02831 |
| .713 | .42856 | 46,3 | .45681 | | .97175 | | .02825 |
| .714 | .42902 | | .45722 | | .97180 | 5,6 | .02820 |
| I. 715 | 0.42949 | 46,3 | 0.45763 | 40,7 | 9.97186 | 5,6 | 0.02814 |
| .716 | .42995 | | .45803 | | .97192 | | .02808 |
| .717 | .43041 | | .45844 | | .97197 | | .02803 |
| .718 | .43088 | | .45885 | | .97203 | | .02797 |
| .719 | .43134 | | .45925 | | .97208 | | .02792 |
| I. 720 | 0.43180 | 46,3 | 0.45966 | 40,7 | 9.97214 | 5,6 | 0.02786 |
| .721 | .43227 | | .46007 | | .97220 | | .02780 |
| .722 | .43273 | | .46048 | | .97225 | | .02775 |
| .723 | .43319 | | .46089 | | .97231 | 5,5 | .02769 |
| .724 | .43365 | | .46129 | 40,8 | .97236 | | .02764 |
| I. 725 | 0.43412 | 46,3 | 0.46170 | 40,8 | 9.97242 | 5,5 | 0.02758 |
| .726 | .43458 | | .46211 | | .97247 | | .02753 |
| .727 | .43504 | | .46252 | | .97253 | | .02747 |
| .728 | .43551 | | .46292 | | .97258 | | .02742 |
| .729 | .43597 | | .46333 | | .97264 | | .02736 |
| I. 730 | 0.43643 | 46,2 | 0.46374 | 40,8 | 9.97269 | 5,5 | 0.02731 |
| .731 | .43689 | | .46415 | | .97275 | | .02725 |
| .732 | .43736 | | .46455 | | .97280 | 5,4 | .02720 |
| .733 | .43782 | | .46496 | | .97285 | | .02715 |
| .734 | .43828 | | .46537 | | .97291 | | .02709 |
| I. 735 | 0.43874 | 46,2 | 0.46578 | 40,8 | 9.97296 | 5,4 | 0.02704 |
| .736 | .43920 | | .46619 | | .97302 | | .02698 |
| .737 | .43967 | | .46660 | | .97307 | | .02693 |
| .738 | .44013 | | .46700 | | .97313 | | .02687 |
| .739 | .44059 | | .46741 | | .97318 | | .02682 |
| I. 740 | 0.44105 | 46,2 | 0.46782 | 40,8 | 9.97323 | 5,4 | 0.02677 |
| .741 | .44151 | | .46823 | | .97329 | 5,3 | .02671 |
| .742 | .44198 | | .46864 | | .97334 | | .02666 |
| .743 | .44244 | | .46905 | | .97339 | | .02661 |
| .744 | .44290 | | .46945 | 40,9 | .97345 | | .02655 |
| I. 745 | 0.44336 | 46,2 | 0.46986 | 40,9 | 9.97350 | 5,3 | 0.02650 |
| .746 | .44382 | | .47027 | | .97355 | | .02645 |
| .747 | .44428 | | .47068 | | .97360 | | .02640 |
| .748 | .44475 | 46,1 | .47109 | | .97366 | | .02634 |
| .749 | .44521 | | .47150 | | .97371 | | .02629 |
| I. 750 | 0.44567 | 46,1 | 0.47191 | 40,9 | 9.97376 | 5,3 | 0.02624 |
| u | log tan gd u | $\infty F_0'$ | log sec gd u | $\infty F_0'$ | log sin gd u | $\infty F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 750 | 0.44567 | 46, I | 0.47191 | 40, 9 | 9.97376 | 5, 3 | 0.02624 |
| .751 | .44613 | | .47231 | | .97382 | 5, 2 | .02618 |
| .752 | .44659 | | .47272 | | .97387 | | .02613 |
| .753 | .44705 | | .47313 | | .97392 | | .02608 |
| .754 | .44751 | | .47354 | | .97397 | | .02603 |
| I. 755 | 0.44797 | 46, I | 0.47395 | 40, 9 | 9.97402 | 5, 2 | 0.02598 |
| .756 | .44844 | | .47436 | | .97408 | | .02592 |
| .757 | .44890 | | .47477 | | .97413 | | .02587 |
| .758 | .44936 | | .47518 | | .97418 | | .02582 |
| .759 | .44982 | | .47559 | | .97423 | | .02577 |
| I. 760 | 0.45028 | 46, I | 0.47600 | 40, 9 | 9.97428 | 5, I | 0.02572 |
| .761 | .45074 | | .47641 | | .97433 | | .02567 |
| .762 | .45120 | | .47682 | | .97439 | | .02561 |
| .763 | .45166 | | .47722 | | .97444 | | .02556 |
| .764 | .45212 | | .47763 | 41, 0 | .97449 | | .02551 |
| I. 765 | 0.45258 | 46, I | 0.47804 | 41, 0 | 9.97454 | 5, I | 0.02546 |
| .766 | .45304 | 46, 0 | .47845 | | .97459 | | .02541 |
| .767 | .45350 | | .47885 | | .97464 | | .02536 |
| .768 | .45396 | | .47927 | | .97469 | | .02531 |
| .769 | .45442 | | .47968 | | .97474 | | .02526 |
| I. 770 | 0.45488 | 46, 0 | 0.48009 | 41, 0 | 9.97479 | 5, 0 | 0.02521 |
| .771 | .45534 | | .48050 | | .97484 | | .02516 |
| .772 | .45580 | | .48091 | | .97489 | | .02511 |
| .773 | .45627 | | .48132 | | .97494 | | .02506 |
| .774 | .45673 | | .48173 | | .97499 | | .02501 |
| I. 775 | 0.45719 | 46, 0 | 0.48214 | 41, 0 | 9.97504 | 5, 0 | 0.02496 |
| .776 | .45765 | | .48255 | | .97509 | | .02491 |
| .777 | .45810 | | .48296 | | .97514 | | .02486 |
| .778 | .45856 | | .48337 | | .97519 | | .02481 |
| .779 | .45902 | | .48378 | | .97524 | | .02476 |
| I. 780 | 0.45948 | 46, 0 | 0.48419 | 41, 0 | 9.97529 | 4, 9 | 0.02471 |
| .781 | .45994 | | .48460 | | .97534 | | .02466 |
| .782 | .46040 | | .48501 | | .97539 | | .02461 |
| .783 | .46086 | | .48542 | | .97544 | | .02456 |
| .784 | .46132 | | .48583 | | .97549 | | .02451 |
| I. 785 | 0.46178 | 45, 9 | 0.48624 | 41, I | 9.97554 | 4, 9 | 0.02446 |
| .786 | .46224 | | .48666 | | .97559 | | .02441 |
| .787 | .46270 | | .48707 | | .97564 | | .02436 |
| .788 | .46316 | | .48748 | | .97568 | | .02432 |
| .789 | .46362 | | .48789 | | .97573 | | .02427 |
| I. 790 | 0.46408 | 45, 9 | 0.48830 | 41, I | 9.97578 | 4, 8 | 0.02422 |
| .791 | .46454 | | .48871 | | .97583 | | .02417 |
| .792 | .46500 | | .48912 | | .97588 | | .02412 |
| .793 | .46546 | | .48953 | | .97593 | | .02407 |
| .794 | .46592 | | .48994 | | .97597 | | .02403 |
| I. 795 | 0.46637 | 45, 9 | 0.49035 | 41, I | 9.97602 | 4, 8 | 0.02398 |
| .796 | .46683 | | .49076 | | .97607 | | .02393 |
| .797 | .46729 | | .49117 | | .97612 | | .02388 |
| .798 | .46775 | | .49159 | | .97617 | | .02383 |
| .799 | .46821 | | .49200 | | .97621 | | .02379 |
| I. 800 | 0.46867 | 45, 9 | 0.49241 | 41, I | 9.97626 | 4, 8 | 0.02374 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I.800 | 0.46867 | 45,9 | 0.49241 | 41,1 | 9.97626 | 4,8 | 0.02374 |
| .801 | .46913 | | .49282 | | .97631 | 4,7 | .02399 |
| .802 | .46959 | | .49323 | | .97636 | | .02364 |
| .803 | .47004 | | .49364 | | .97640 | | .02360 |
| .804 | .47050 | 45,8 | .49405 | | .97645 | | .02355 |
| I.805 | 0.47096 | 45,8 | 0.49446 | 41,1 | 9.97650 | 4,7 | 0.02350 |
| .806 | .47142 | | .49488 | | .97654 | | .02346 |
| .807 | .47188 | | .49529 | 41,2 | .97659 | | .02341 |
| .808 | .47234 | | .49570 | | .97664 | | .02336 |
| .809 | .47279 | | .49611 | | .97668 | | .02332 |
| I.810 | 0.47325 | 45,8 | 0.49652 | 41,2 | 9.97673 | 4,7 | 0.02327 |
| .811 | .47371 | | .49693 | | .97678 | 4,6 | .02322 |
| .812 | .47417 | | .49734 | | .97682 | | .02318 |
| .813 | .47463 | | .49776 | | .97687 | | .02313 |
| .814 | .47509 | | .49817 | | .97692 | | .02308 |
| I.815 | 0.47554 | 45,8 | 0.49858 | 41,2 | 9.97696 | 4,6 | 0.02304 |
| .816 | .47600 | | .49899 | | .97701 | | .02299 |
| .817 | .47646 | | .49940 | | .97705 | | .02295 |
| .818 | .47692 | | .49982 | | .97710 | | .02290 |
| .819 | .47737 | | .50023 | | .97715 | | .02285 |
| I.820 | 0.47783 | 45,8 | 0.50064 | 41,2 | 9.97719 | 4,6 | 0.02281 |
| .821 | .47829 | | .50105 | | .97724 | | .02276 |
| .822 | .47875 | | .50146 | | .97728 | 4,5 | .02272 |
| .823 | .47921 | | .50188 | | .97733 | | .02267 |
| .824 | .47966 | | .50229 | | .97737 | | .02263 |
| I.825 | 0.48012 | 45,7 | 0.50270 | 41,2 | 9.97742 | 4,5 | 0.02258 |
| .826 | .48058 | | .50311 | | .97746 | | .02254 |
| .827 | .48104 | | .50353 | | .97751 | | .02249 |
| .828 | .48149 | | .50394 | | .97755 | | .02245 |
| .829 | .48195 | | .50435 | | .97760 | | .02240 |
| I.830 | 0.48241 | 45,7 | 0.50476 | 41,3 | 9.97764 | 4,5 | 0.02236 |
| .831 | .48286 | | .50518 | | .97769 | | .02231 |
| .832 | .48332 | | .50559 | | .97773 | | .02227 |
| .833 | .48378 | | .50600 | | .97778 | 4,4 | .02222 |
| .834 | .48424 | | .50641 | | .97782 | | .02218 |
| I.835 | 0.48469 | 45,7 | 0.50683 | 41,3 | 9.97787 | 4,4 | 0.02213 |
| .836 | .48515 | | .50724 | | .97791 | | .02209 |
| .837 | .48561 | | .50765 | | .97796 | | .02204 |
| .838 | .48606 | | .50806 | | .97800 | | .02200 |
| .839 | .48652 | | .50848 | | .97804 | | .02196 |
| I.840 | 0.48698 | 45,7 | 0.50889 | 41,3 | 9.97809 | 4,4 | 0.02191 |
| .841 | .48743 | | .50930 | | .97813 | | .02187 |
| .842 | .48789 | | .50972 | | .97817 | | .02183 |
| .843 | .48835 | | .51013 | | .97822 | | .02178 |
| .844 | .48880 | | .51054 | | .97826 | 4,3 | .02174 |
| I.845 | 0.48926 | 45,7 | 0.51096 | 41,3 | 9.97831 | 4,3 | 0.02169 |
| .846 | .48972 | 45,6 | .51137 | | .97835 | | .02165 |
| .847 | .49017 | | .51178 | | .97839 | | .02161 |
| .848 | .49063 | | .51219 | | .97843 | | .02157 |
| .849 | .49109 | | .51261 | | .97848 | | .02152 |
| I.850 | 0.49154 | 45,6 | 0.51302 | 41,3 | 9.97852 | 4,3 | 0.02148 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 1.850 | 0.49154 | 45,6 | 0.51302 | 41,3 | 9.97852 | 4,3 | 0.02148 |
| .851 | .49200 | | .51343 | | .97856 | | .02144 |
| .852 | .49246 | | .51385 | | .97861 | | .02139 |
| .853 | .49291 | | .51426 | | .97865 | | .02135 |
| .854 | .49337 | | .51468 | 41,4 | .97869 | | .02131 |
| 1.855 | 0.49382 | 45,6 | 0.51509 | 41,4 | 9.97873 | 4,3 | 0.02127 |
| .856 | .49428 | | .51550 | | .97878 | 4,2 | .02122 |
| .857 | .49474 | | .51592 | | .97882 | | .02118 |
| .858 | .49519 | | .51633 | | .97886 | | .02114 |
| .859 | .49565 | | .51674 | | .97890 | | .02110 |
| 1.860 | 0.49610 | 45,6 | 0.51716 | 41,4 | 9.97895 | 4,2 | 0.02105 |
| .861 | .49656 | | .51757 | | .97899 | | .02101 |
| .862 | .49702 | | .51798 | | .97903 | | .02097 |
| .863 | .49747 | | .51840 | | .97907 | | .02093 |
| .864 | .49793 | | .51881 | | .97911 | | .02089 |
| 1.865 | 0.49838 | 45,6 | 0.51923 | 41,4 | 9.97916 | 4,2 | 0.02084 |
| .866 | .49884 | | .51964 | | .97920 | | .02080 |
| .867 | .49929 | | .52005 | | .97924 | | .02076 |
| .868 | .49975 | | .52047 | | .97928 | 4,1 | .02072 |
| .869 | .50020 | 45,5 | .52088 | | .97932 | | .02068 |
| 1.870 | 0.50066 | 45,5 | 0.52130 | 41,4 | 9.97936 | 4,1 | 0.02064 |
| .871 | .50112 | | .52171 | | .97940 | | .02060 |
| .872 | .50157 | | .52212 | | .97945 | | .02055 |
| .873 | .50203 | | .52254 | | .97949 | | .02051 |
| .874 | .50248 | | .52295 | | .97953 | | .02047 |
| 1.875 | 0.50294 | 45,5 | 0.52337 | 41,4 | 9.97957 | 4,1 | 0.02043 |
| .876 | .50339 | | .52378 | | .97961 | | .02039 |
| .877 | .50385 | | .52420 | | .97965 | | .02035 |
| .878 | .50430 | | .52461 | | .97969 | | .02031 |
| .879 | .50476 | | .52503 | | .97973 | | .02027 |
| 1.880 | 0.50521 | 45,5 | 0.52544 | 41,5 | 9.97977 | 4,0 | 0.02023 |
| .881 | .50567 | | .52585 | | .97981 | | .02019 |
| .882 | .50612 | | .52627 | | .97985 | | .02015 |
| .883 | .50658 | | .52668 | | .97989 | | .02011 |
| .884 | .50703 | | .52710 | | .97993 | | .02007 |
| 1.885 | 0.50749 | 45,5 | 0.52751 | 41,5 | 9.97997 | 4,0 | 0.02003 |
| .886 | .50794 | | .52793 | | .98001 | | .01999 |
| .887 | .50840 | | .52834 | | .98005 | | .01995 |
| .888 | .50885 | | .52876 | | .98009 | | .01991 |
| .889 | .50931 | | .52917 | | .98013 | | .01987 |
| 1.890 | 0.50976 | 45,5 | 0.52959 | 41,5 | 9.98017 | 4,0 | 0.01983 |
| .891 | .51021 | | .53000 | | .98021 | | .01979 |
| .892 | .51067 | 45,4 | .53042 | | .98025 | | .01975 |
| .893 | .51112 | | .53083 | | .98029 | 3,9 | .01971 |
| .894 | .51158 | | .53125 | | .98033 | | .01967 |
| 1.895 | 0.51203 | 45,4 | 0.53166 | 41,5 | 9.98037 | 3,9 | 0.01963 |
| .896 | .51249 | | .53208 | | .98041 | | .01959 |
| .897 | .51294 | | .53249 | | .98045 | | .01955 |
| .898 | .51340 | | .53291 | | .98049 | | .01951 |
| .899 | .51385 | | .53332 | | .98053 | | .01947 |
| 1.900 | 0.51430 | 45,4 | 0.53374 | 41,5 | 9.98057 | 3,9 | 0.01943 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|--------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| I. 900 | 0.51430 | 45.4 | 0.53374 | 41.5 | 9.98057 | 3.9 | 0.01943 |
| .901 | .51476 | | .53415 | | .98060 | | .01940 |
| .902 | .51521 | | .53457 | | .98064 | | .01936 |
| .903 | .51567 | | .53498 | | .98068 | | .01932 |
| .904 | .51612 | | .53540 | | .98072 | | .01928 |
| I. 905 | 0.51657 | 45.4 | 0.53581 | 41.5 | 9.98076 | 3.8 | 0.01924 |
| .906 | .51703 | | .53623 | 41.6 | .98080 | | .01920 |
| .907 | .51748 | | .53665 | | .98084 | | .01916 |
| .908 | .51794 | | .53706 | | .98087 | | .01913 |
| .909 | .51839 | | .53748 | | .98091 | | .01909 |
| I. 910 | 0.51884 | 45.4 | 0.53789 | 41.6 | 9.98095 | 3.8 | 0.01905 |
| .911 | .51930 | | .53831 | | .98099 | | .01901 |
| .912 | .51975 | | .53872 | | .98103 | | .01897 |
| .913 | .52020 | | .53914 | | .98106 | | .01894 |
| .914 | .52066 | | .53956 | | .98110 | | .01890 |
| I. 915 | 0.52111 | 45.4 | 0.53997 | 41.6 | 9.98114 | 3.8 | 0.01885 |
| .916 | .52157 | | .54039 | | .98118 | | .01882 |
| .917 | .52202 | 45.3 | .54080 | | .98122 | | .01878 |
| .918 | .52247 | | .54122 | | .98125 | | .01875 |
| .919 | .52293 | | .54164 | | .98129 | 3.7 | .01871 |
| I. 920 | 0.52338 | 45.3 | 0.54205 | 41.6 | 9.98133 | 3.7 | 0.01867 |
| .921 | .52383 | | .54247 | | .98137 | | .01863 |
| .922 | .52429 | | .54288 | | .98140 | | .01860 |
| .923 | .52474 | | .54330 | | .98144 | | .01856 |
| .924 | .52519 | | .54372 | | .98148 | | .01852 |
| I. 925 | 0.52565 | 45.3 | 0.54413 | 41.6 | 9.98151 | 3.7 | 0.01849 |
| .926 | .52610 | | .54455 | | .98155 | | .01845 |
| .927 | .52655 | | .54496 | | .98159 | | .01841 |
| .928 | .52700 | | .54538 | | .98162 | | .01838 |
| .929 | .52746 | | .54580 | | .98166 | | .01834 |
| I. 930 | 0.52791 | 45.3 | 0.54621 | 41.6 | 9.98170 | 3.7 | 0.01830 |
| .931 | .52836 | | .54663 | | .98173 | | .01827 |
| .932 | .52882 | | .54705 | | .98177 | 3.6 | .01823 |
| .933 | .52927 | | .54746 | | .98181 | | .01819 |
| .934 | .52972 | | .54788 | 41.7 | .98184 | | .01816 |
| I. 935 | 0.53018 | 45.3 | 0.54830 | 41.7 | 9.98188 | 3.6 | 0.01812 |
| .936 | .53063 | | .54871 | | .98192 | | .01808 |
| .937 | .53108 | | .54913 | | .98195 | | .01805 |
| .938 | .53153 | | .54955 | | .98199 | | .01801 |
| .939 | .53199 | | .54996 | | .98202 | | .01798 |
| I. 940 | 0.53244 | 45.3 | 0.55038 | 41.7 | 9.98206 | 3.6 | 0.01794 |
| .941 | .53289 | | .55080 | | .98210 | | .01790 |
| .942 | .53334 | | .55121 | | .98213 | | .01787 |
| .943 | .53380 | 45.2 | .55163 | | .98217 | | .01783 |
| .944 | .53425 | | .55205 | | .98220 | | .01780 |
| I. 945 | 0.53470 | 45.2 | 0.55246 | 41.7 | 9.98224 | 3.6 | 0.01776 |
| .946 | .53515 | | .55288 | | .98227 | 3.5 | .01773 |
| .947 | .53561 | | .55330 | | .98231 | | .01769 |
| .948 | .53606 | | .55371 | | .98235 | | .01765 |
| .949 | .53651 | | .55413 | | .98238 | | .01762 |
| I. 950 | 0.53696 | 45.2 | 0.55455 | 41.7 | 9.98242 | 3.5 | 0.01758 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 1.950 | 0.53696 | 45,2 | 0.55455 | 41,7 | 9.98242 | 3,5 | 0.01758 |
| .951 | .53742 | | .55496 | | .98245 | | .01755 |
| .952 | .53787 | | .55538 | | .98249 | | .01751 |
| .953 | .53832 | | .55580 | | .98252 | | .01748 |
| .954 | .53877 | | .55622 | | .98256 | | .01744 |
| 1.955 | 0.53922 | 45,2 | 0.55663 | 41,7 | 9.98259 | 3,5 | 0.01741 |
| .956 | .53968 | | .55705 | | .98263 | | .01737 |
| .957 | .54013 | | .55747 | | .98266 | | .01734 |
| .958 | .54058 | | .55788 | | .98269 | | .01731 |
| .959 | .54103 | | .55830 | | .98273 | | .01727 |
| 1.960 | 0.54148 | 45,2 | 0.55872 | 41,7 | 9.98276 | 3,4 | 0.01724 |
| .961 | .54194 | | .55914 | | .98280 | | .01720 |
| .962 | .54239 | | .55955 | | .98283 | | .01717 |
| .963 | .54284 | | .55997 | | .98287 | | .01713 |
| .964 | .54329 | | .56039 | 41,8 | .98290 | | .01710 |
| 1.965 | 0.54374 | 45,2 | 0.56081 | 41,8 | 9.98294 | 3,4 | 0.01706 |
| .966 | .54419 | | .56122 | | .98297 | | .01703 |
| .967 | .54465 | | .56164 | | .98300 | | .01700 |
| .968 | .54510 | | .56206 | | .98304 | | .01696 |
| .969 | .54555 | | .56248 | | .98307 | | .01693 |
| 1.970 | 0.54600 | 45,2 | 0.56290 | 41,8 | 9.98311 | 3,4 | 0.01689 |
| .971 | .54645 | 45,1 | .56331 | | .98314 | | .01686 |
| .972 | .54690 | | .56373 | | .98317 | | .01683 |
| .973 | .54736 | | .56415 | | .98321 | | .01679 |
| .974 | .54781 | | .56457 | | .98324 | | .01676 |
| 1.975 | 0.54826 | 45,1 | 0.56498 | 41,8 | 9.98327 | 3,3 | 0.01673 |
| .976 | .54871 | | .56540 | | .98331 | | .01669 |
| .977 | .54916 | | .56582 | | .98334 | | .01666 |
| .978 | .54961 | | .56624 | | .98337 | | .01663 |
| .979 | .55006 | | .56666 | | .98341 | | .01659 |
| 1.980 | 0.55051 | 45,1 | 0.56707 | 41,8 | 9.98344 | 3,3 | 0.01656 |
| .981 | .55097 | | .56749 | | .98347 | | .01653 |
| .982 | .55142 | | .56791 | | .98351 | | .01649 |
| .983 | .55187 | | .56833 | | .98354 | | .01646 |
| .984 | .55232 | | .56875 | | .98357 | | .01643 |
| 1.985 | 0.55277 | 45,1 | 0.56916 | 41,8 | 9.98360 | 3,3 | 0.01640 |
| .986 | .55322 | | .56958 | | .98364 | | .01636 |
| .987 | .55367 | | .57000 | | .98367 | | .01633 |
| .988 | .55412 | | .57042 | | .98370 | | .01630 |
| .989 | .55457 | | .57084 | | .98374 | | .01626 |
| 1.990 | 0.55502 | 45,1 | 0.57126 | 41,8 | 9.98377 | 3,2 | 0.01623 |
| .991 | .55547 | | .57167 | | .98380 | | .01620 |
| .992 | .55593 | | .57209 | | .98383 | | .01617 |
| .993 | .55638 | | .57251 | | .98387 | | .01613 |
| .994 | .55683 | | .57293 | | .98390 | | .01610 |
| 1.995 | 0.55728 | 45,1 | 0.57335 | 41,9 | 9.98393 | 3,2 | 0.01607 |
| .996 | .55773 | | .57377 | | .98396 | | .01604 |
| .997 | .55818 | | .57419 | | .98399 | | .01601 |
| .998 | .55863 | | .57460 | | .98403 | | .01597 |
| .999 | .55908 | | .57502 | | .98406 | | .01594 |
| 2.000 | 0.55953 | 45,0 | 0.57544 | 41,9 | 9.98409 | 3,2 | 0.01591 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.000 | 0.55953 | 45,0 | 0.57544 | 41,9 | 9.98409 | 3,2 | 0.01591 |
| .001 | .55998 | | .57586 | | .98412 | | .01588 |
| .002 | .56043 | | .57628 | | .98415 | | .01585 |
| .003 | .56088 | | .57670 | | .98418 | | .01582 |
| .004 | .56133 | | .57712 | | .98422 | | .01578 |
| 2.005 | 0.56178 | 45,0 | 0.57754 | 41,9 | 9.98425 | 3,2 | 0.01575 |
| .006 | .56223 | | .57795 | | .98428 | 3,1 | .01572 |
| .007 | .56268 | | .57837 | | .98431 | | .01569 |
| .008 | .56313 | | .57879 | | .98434 | | .01566 |
| .009 | .56358 | | .57921 | | .98437 | | .01563 |
| 2.010 | 0.56403 | 45,0 | 0.57963 | 41,9 | 9.98440 | 3,1 | 0.01560 |
| .011 | .56448 | | .58005 | | .98444 | | .01556 |
| .012 | .56493 | | .58047 | | .98447 | | .01553 |
| .013 | .56538 | | .58089 | | .98450 | | .01550 |
| .014 | .56583 | | .58131 | | .98453 | | .01547 |
| 2.015 | 0.56628 | 45,0 | 0.58172 | 41,9 | 9.98456 | 3,1 | 0.01544 |
| .016 | .56673 | | .58214 | | .98459 | | .01541 |
| .017 | .56718 | | .58256 | | .98462 | | .01538 |
| .018 | .56723 | | .58298 | | .98465 | | .01535 |
| .019 | .56808 | | .58340 | | .98468 | | .01532 |
| 2.020 | 0.56853 | 45,0 | 0.58382 | 41,9 | 9.98471 | 3,1 | 0.01529 |
| .021 | .56898 | | .58424 | | .98474 | | .01526 |
| .022 | .56943 | | .58466 | | .98477 | 3,0 | .01523 |
| .023 | .56988 | | .58508 | | .98480 | | .01520 |
| .024 | .57033 | | .58550 | | .98484 | | .01516 |
| 2.025 | 0.57078 | 45,0 | 0.58592 | 41,9 | 9.98487 | 3,0 | 0.01513 |
| .026 | .57123 | | .58634 | | .98490 | | .01510 |
| .027 | .57168 | | .58676 | | .98493 | | .01507 |
| .028 | .57213 | | .58718 | 42,0 | .98496 | | .01504 |
| .029 | .57258 | | .58760 | | .98499 | | .01501 |
| 2.030 | 0.57303 | 45,0 | 0.58802 | 42,0 | 9.98502 | 3,0 | 0.01498 |
| .031 | .57348 | | .58843 | | .98505 | | .01495 |
| .032 | .57393 | 44,9 | .58885 | | .98508 | | .01492 |
| .033 | .57438 | | .58927 | | .98511 | | .01489 |
| .034 | .57483 | | .58969 | | .98514 | | .01485 |
| 2.035 | 0.57528 | 44,9 | 0.59011 | 42,0 | 9.98517 | 3,0 | 0.01483 |
| .036 | .57573 | | .59053 | | .98519 | | .01481 |
| .037 | .57618 | | .59095 | | .98522 | | .01478 |
| .038 | .57663 | | .59137 | | .98525 | 2,9 | .01475 |
| .039 | .57708 | | .59179 | | .98528 | | .01472 |
| 2.040 | 0.57753 | 44,9 | 0.59221 | 42,0 | 9.98531 | 2,9 | 0.01469 |
| .041 | .57797 | | .59263 | | .98534 | | .01466 |
| .042 | .57842 | | .59305 | | .98537 | | .01463 |
| .043 | .57887 | | .59347 | | .98540 | | .01460 |
| .044 | .57932 | | .59389 | | .98543 | | .01457 |
| 2.045 | 0.57977 | 44,9 | 0.59431 | 42,0 | 9.98546 | 2,9 | 0.01454 |
| .046 | .58022 | | .59473 | | .98549 | | .01451 |
| .047 | .58067 | | .59515 | | .98552 | | .01448 |
| .048 | .58112 | | .59557 | | .98555 | | .01445 |
| .049 | .58157 | | .59599 | | .98558 | | .01442 |
| 2.050 | 0.58202 | 44,9 | 0.59641 | 42,0 | 9.98560 | 2,9 | 0.01440 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.050 | 0.58202 | 44,9 | 0.59641 | 42,0 | 9.98560 | 2,9 | 0.01440 |
| .051 | .58246 | | .59683 | | .98563 | | .01437 |
| .052 | .58291 | | .59725 | | .98566 | | .01434 |
| .053 | .58336 | | .59767 | | .98569 | | .01431 |
| .054 | .58381 | | .59809 | | .98572 | | .01428 |
| 2.055 | 0.58426 | 44,9 | 0.59851 | 42,0 | 9.98575 | 2,9 | 0.01425 |
| .056 | .58471 | | .59893 | | .98578 | 2,8 | .01422 |
| .057 | .58516 | | .59935 | | .98580 | | .01420 |
| .058 | .58561 | | .59977 | | .98583 | | .01417 |
| .059 | .58606 | | .60019 | | .98586 | | .01414 |
| 2.060 | 0.58650 | 44,9 | 0.60061 | 42,0 | 9.98589 | 2,8 | 0.01411 |
| .061 | .58695 | | .60104 | | .98592 | | .01408 |
| .062 | .58740 | | .60146 | | .98595 | | .01405 |
| .063 | .58785 | | .60188 | | .98597 | | .01403 |
| .064 | .58830 | | .60230 | 42,1 | .98600 | | .01400 |
| 2.065 | 0.58875 | 44,8 | 0.60272 | 42,1 | 9.98603 | 2,8 | 0.01397 |
| .066 | .58920 | | .60314 | | .98606 | | .01394 |
| .067 | .58964 | | .60356 | | .98609 | | .01391 |
| .068 | .59009 | | .60398 | | .98611 | | .01389 |
| .069 | .59054 | | .60440 | | .98614 | | .01386 |
| 2.070 | 0.59099 | 44,8 | 0.60482 | 42,1 | 9.98617 | 2,8 | 0.01383 |
| .071 | .59144 | | .60524 | | .98620 | | .01380 |
| .072 | .59189 | | .60566 | | .98622 | | .01378 |
| .073 | .59233 | | .60608 | | .98625 | | .01375 |
| .074 | .59278 | | .60650 | | .98628 | 2,7 | .01372 |
| 2.075 | 0.59323 | 44,8 | 0.60692 | 42,1 | 9.98631 | 2,7 | 0.01369 |
| .076 | .59368 | | .60734 | | .98633 | | .01367 |
| .077 | .59413 | | .60777 | | .98636 | | .01364 |
| .078 | .59457 | | .60819 | | .98639 | | .01361 |
| .079 | .59502 | | .60861 | | .98642 | | .01358 |
| 2.080 | 0.59547 | 44,8 | 0.60903 | 42,1 | 9.98644 | 2,7 | 0.01356 |
| .081 | .59592 | | .60945 | | .98647 | | .01353 |
| .082 | .59637 | | .60987 | | .98650 | | .01350 |
| .083 | .59681 | | .61029 | | .98652 | | .01348 |
| .084 | .59726 | | .61071 | | .98655 | | .01345 |
| 2.085 | 0.59771 | 44,8 | 0.61113 | 42,1 | 9.98658 | 2,7 | 0.01342 |
| .086 | .59816 | | .61155 | | .98660 | | .01340 |
| .087 | .59861 | | .61198 | | .98663 | | .01337 |
| .088 | .59905 | | .61240 | | .98666 | | .01334 |
| .089 | .59950 | | .61282 | | .98668 | | .01332 |
| 2.090 | 0.59995 | 44,8 | 0.61324 | 42,1 | 9.98671 | 2,7 | 0.01329 |
| .091 | .60040 | | .61366 | | .98674 | | .01326 |
| .092 | .60085 | | .61408 | | .98676 | 2,6 | .01324 |
| .093 | .60129 | | .61450 | | .98679 | | .01321 |
| .094 | .60174 | | .61492 | | .98682 | | .01318 |
| 2.095 | 0.60219 | 44,8 | 0.61535 | 42,1 | 9.98684 | 2,6 | 0.01316 |
| .096 | .60264 | | .61577 | | .98687 | | .01313 |
| .097 | .60308 | | .61619 | | .98690 | | .01310 |
| .098 | .60353 | | .61661 | | .98692 | | .01308 |
| .099 | .60398 | | .61703 | | .98695 | | .01305 |
| 2.100 | 0.60443 | 44,8 | 0.61745 | 42,1 | 9.98697 | 2,6 | 0.01303 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.100 | 0.60443 | 44,8 | 0.61745 | 42,1 | 9.98697 | 2,6 | 0.01303 |
| .101 | .60487 | 44,7 | .61787 | | .98700 | | .01300 |
| .102 | .60532 | | .61830 | 42,2 | .98703 | | .01297 |
| .103 | .60577 | | .61872 | | .98705 | | .01295 |
| .104 | .60622 | | .61914 | | .98708 | | .01292 |
| 2.105 | 0.60666 | 44,7 | 0.61956 | 42,2 | 9.98710 | 2,6 | 0.01290 |
| .106 | .60711 | | .61998 | | .98713 | | .01287 |
| .107 | .60756 | | .62040 | | .98716 | | .01284 |
| .108 | .60801 | | .62083 | | .98718 | | .01282 |
| .109 | .60845 | | .62125 | | .98721 | | .01279 |
| 2.110 | 0.60890 | 44,7 | 0.62167 | 42,2 | 9.98723 | 2,6 | 0.01277 |
| .111 | .60935 | | .62209 | | .98726 | 2,5 | .01274 |
| .112 | .60979 | | .62251 | | .98728 | | .01272 |
| .113 | .61024 | | .62293 | | .98731 | | .01269 |
| .114 | .61069 | | .62336 | | .98733 | | .01267 |
| 2.115 | 0.61114 | 44,7 | 0.62378 | 42,2 | 9.98736 | 2,5 | 0.01264 |
| .116 | .61158 | | .62420 | | .98738 | | .01262 |
| .117 | .61203 | | .62462 | | .98741 | | .01259 |
| .118 | .61248 | | .62504 | | .98743 | | .01257 |
| .119 | .61292 | | .62546 | | .98746 | | .01254 |
| 2.120 | 0.61337 | 44,7 | 0.62589 | 42,2 | 9.98748 | 2,5 | 0.01252 |
| .121 | .61382 | | .62631 | | .98751 | | .01249 |
| .122 | .61427 | | .62673 | | .98753 | | .01247 |
| .123 | .61471 | | .62715 | | .98756 | | .01244 |
| .124 | .61516 | | .62757 | | .98758 | | .01242 |
| 2.125 | 0.61561 | 44,7 | 0.62800 | 42,2 | 9.98761 | 2,5 | 0.01239 |
| .126 | .61605 | | .62842 | | .98763 | | .01237 |
| .127 | .61650 | | .62884 | | .98766 | | .01234 |
| .128 | .61695 | | .62926 | | .98768 | | .01232 |
| .129 | .61739 | | .62969 | | .98771 | | .01229 |
| 2.130 | 0.61784 | 44,7 | 0.63011 | 42,2 | 9.98773 | 2,5 | 0.01227 |
| .131 | .61829 | | .63053 | | .98776 | 2,4 | .01224 |
| .132 | .61873 | | .63095 | | .98778 | | .01222 |
| .133 | .61918 | | .63137 | | .98781 | | .01219 |
| .134 | .61963 | | .63180 | | .98783 | | .01217 |
| 2.135 | 0.62007 | 44,7 | 0.63222 | 42,2 | 9.98785 | 2,4 | 0.01215 |
| .136 | .62052 | | .63264 | | .98788 | | .01212 |
| .137 | .62097 | | .63306 | | .98790 | | .01210 |
| .138 | .62141 | | .63349 | | .98793 | | .01207 |
| .139 | .62186 | | .63391 | | .98795 | | .01205 |
| 2.140 | 0.62231 | 44,6 | 0.63433 | 42,2 | 9.98798 | 2,4 | 0.01202 |
| .141 | .62275 | | .63475 | | .98800 | | .01200 |
| .142 | .62320 | | .63518 | | .98802 | | .01198 |
| .143 | .62365 | | .63560 | 42,3 | .98805 | | .01195 |
| .144 | .62409 | | .63602 | | .98807 | | .01193 |
| 2.145 | 0.62454 | 44,6 | 0.63644 | 42,3 | 9.98810 | 2,4 | 0.01190 |
| .146 | .62498 | | .63687 | | .98812 | | .01188 |
| .147 | .62543 | | .63729 | | .98814 | | .01186 |
| .148 | .62588 | | .63771 | | .98817 | | .01183 |
| .149 | .62632 | | .63813 | | .98819 | | .01181 |
| 2.150 | 0.62677 | 44,6 | 0.63856 | 42,3 | 9.98821 | 2,4 | 0.01179 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.150 | 0.62677 | 44,6 | 0.63856 | 42,3 | 9.98821 | 2,4 | 0.01179 |
| .151 | .62722 | | .63898 | | .98824 | | .01176 |
| .152 | .62766 | | .63940 | | .98826 | 2,3 | .01174 |
| .153 | .62811 | | .63982 | | .98828 | | .01172 |
| .154 | .62855 | | .64025 | | .98831 | | .01169 |
| 2.155 | 0.62900 | 44,6 | 0.64067 | 42,3 | 9.98833 | 2,3 | 0.01167 |
| .156 | .62945 | | .64109 | | .98835 | | .01165 |
| .157 | .62989 | | .64152 | | .98838 | | .01162 |
| .158 | .63034 | | .64194 | | .98840 | | .01160 |
| .159 | .63079 | | .64236 | | .98842 | | .01158 |
| 2.160 | 0.63123 | 44,6 | 0.64278 | 42,3 | 9.98845 | 2,3 | 0.01155 |
| .161 | .63168 | | .64321 | | .98847 | | .01153 |
| .162 | .63212 | | .64363 | | .98849 | | .01151 |
| .163 | .63257 | | .64405 | | .98852 | | .01148 |
| .164 | .63302 | | .64448 | | .98854 | | .01146 |
| 2.165 | 0.63346 | 44,6 | 0.64490 | 42,3 | 9.98856 | 2,3 | 0.01144 |
| .166 | .63391 | | .64532 | | .98859 | | .01141 |
| .167 | .63435 | | .64574 | | .98861 | | .01139 |
| .168 | .63480 | | .64617 | | .98863 | | .01137 |
| .169 | .63524 | | .64659 | | .98865 | | .01135 |
| 2.170 | 0.63569 | 44,6 | 0.64701 | 42,3 | 9.98868 | 2,3 | 0.01132 |
| .171 | .63614 | | .64744 | | .98870 | | .01130 |
| .172 | .63658 | | .64786 | | .98872 | | .01128 |
| .173 | .63703 | | .64828 | | .98874 | | .01126 |
| .174 | .63747 | | .64871 | | .98877 | 2,2 | .01123 |
| 2.175 | 0.63792 | 44,6 | 0.64913 | 42,3 | 9.98879 | 2,2 | 0.01121 |
| .176 | .63836 | | .64955 | | .98881 | | .01119 |
| .177 | .63881 | | .64998 | | .98883 | | .01117 |
| .178 | .63926 | | .65040 | | .98886 | | .01114 |
| .179 | .63970 | | .65082 | | .98888 | | .01112 |
| 2.180 | 0.64015 | 44,6 | 0.65125 | 42,3 | 9.98890 | 2,2 | 0.01110 |
| .181 | .64059 | | .65167 | | .98892 | | .01108 |
| .182 | .64104 | 44,5 | .65209 | | .98894 | | .01106 |
| .183 | .64148 | | .65252 | | .98897 | | .01103 |
| .184 | .64193 | | .65294 | | .98899 | | .01101 |
| 2.185 | 0.64237 | 44,5 | 0.65336 | 42,3 | 9.98901 | 2,2 | 0.01099 |
| .186 | .64282 | | .65379 | | .98903 | | .01097 |
| .187 | .64326 | | .65421 | 42,4 | .98905 | | .01095 |
| .188 | .64371 | | .65463 | | .98908 | | .01092 |
| .189 | .64416 | | .65506 | | .98910 | | .01090 |
| 2.190 | 0.64460 | 44,5 | 0.65548 | 42,4 | 9.98912 | 2,2 | 0.01088 |
| .191 | .64505 | | .65590 | | .98914 | | .01086 |
| .192 | .64549 | | .65633 | | .98916 | | .01084 |
| .193 | .64594 | | .65675 | | .98919 | | .01081 |
| .194 | .64638 | | .65718 | | .98921 | | .01079 |
| 2.195 | 0.64683 | 44,5 | 0.65760 | 42,4 | 9.98923 | 2,2 | 0.01077 |
| .196 | .64727 | | .65802 | | .98925 | | .01075 |
| .197 | .64772 | | .65845 | | .98927 | 2,1 | .01073 |
| .198 | .64816 | | .65887 | | .98929 | | .01071 |
| .199 | .64861 | | .65929 | | .98931 | | .01069 |
| 2.200 | 0.64905 | 44,5 | 0.65972 | 42,4 | 9.98934 | 2,1 | 0.01066 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.200 | 0.64905 | 44,5 | 0.65972 | 42,4 | 9.98934 | 2,1 | 0.01066 |
| .201 | .64950 | | .66014 | | .98936 | | .01064 |
| .202 | .64994 | | .66056 | | .98938 | | .01062 |
| .203 | .65039 | | .66099 | | .98940 | | .01060 |
| .204 | .65083 | | .66141 | | .98942 | | .01058 |
| 2.205 | 0.65128 | 44,5 | 0.66184 | 42,4 | 9.98944 | 2,1 | 0.01056 |
| .206 | .65172 | | .66226 | | .98946 | | .01054 |
| .207 | .65217 | | .66268 | | .98948 | | .01052 |
| .208 | .65261 | | .66311 | | .98950 | | .01050 |
| .209 | .65306 | | .66353 | | .98953 | | .01047 |
| 2.210 | 0.65350 | 44,5 | 0.66396 | 42,4 | 9.98955 | 2,1 | 0.01045 |
| .211 | .65395 | | .66438 | | .98957 | | .01043 |
| .212 | .65439 | | .66480 | | .98959 | | .01041 |
| .213 | .65484 | | .66523 | | .98961 | | .01039 |
| .214 | .65528 | | .66565 | | .98963 | | .01037 |
| 2.215 | 0.65573 | 44,5 | 0.66608 | 42,4 | 9.98965 | 2,1 | 0.01035 |
| .216 | .65617 | | .66650 | | .98967 | | .01033 |
| .217 | .65662 | | .66692 | | .98969 | | .01031 |
| .218 | .65706 | | .66735 | | .98971 | | .01029 |
| .219 | .65751 | | .66777 | | .98973 | | .01027 |
| 2.220 | 0.65795 | 44,5 | 0.66820 | 42,4 | 9.98975 | 2,0 | 0.01025 |
| .221 | .65840 | | .66862 | | .98977 | | .01023 |
| .222 | .65884 | | .66905 | | .98979 | | .01021 |
| .223 | .65928 | | .66947 | | .98982 | | .01018 |
| .224 | .65973 | | .66989 | | .98984 | | .01016 |
| 2.225 | 0.66017 | 44,5 | 0.67032 | 42,4 | 9.98986 | 2,0 | 0.01014 |
| .226 | .66062 | | .67074 | | .98988 | | .01012 |
| .227 | .66106 | | .67117 | | .98990 | | .01010 |
| .228 | .66151 | 44,4 | .67159 | | .98992 | | .01008 |
| .229 | .66195 | | .67202 | | .98994 | | .01006 |
| 2.230 | 0.66240 | 44,4 | 0.67244 | 42,4 | 9.98996 | 2,0 | 0.01004 |
| .231 | .66284 | | .67286 | | .98998 | | .01002 |
| .232 | .66328 | | .67329 | | .99000 | | .01000 |
| .233 | .66373 | | .67371 | | .99002 | | .00998 |
| .234 | .66417 | | .67414 | | .99004 | | .00996 |
| 2.235 | 0.66462 | 44,4 | 0.67456 | 42,4 | 9.99006 | 2,0 | 0.00994 |
| .236 | .66506 | | .67499 | | .99008 | | .00992 |
| .237 | .66551 | | .67541 | 42,5 | .99010 | | .00990 |
| .238 | .66595 | | .67583 | | .99012 | | .00988 |
| .239 | .66640 | | .67626 | | .99014 | | .00986 |
| 2.240 | 0.66684 | 44,4 | 0.67668 | 42,5 | 9.99016 | 2,0 | 0.00984 |
| .241 | .66728 | | .67711 | | .99018 | | .00982 |
| .242 | .66773 | | .67753 | | .99019 | | .00981 |
| .243 | .66817 | | .67796 | | .99021 | | .00979 |
| .244 | .66862 | | .67838 | | .99023 | | .00977 |
| 2.245 | 0.66906 | 44,4 | 0.67881 | 42,5 | 9.99025 | 1,9 | 0.00975 |
| .246 | .66950 | | .67923 | | .99027 | | .00973 |
| .247 | .66995 | | .67966 | | .99029 | | .00971 |
| .248 | .67039 | | .68008 | | .99031 | | .00969 |
| .249 | .67084 | | .68051 | | .99033 | | .00967 |
| 2.250 | 0.67128 | 44,4 | 0.68093 | 42,5 | 9.99035 | 1,9 | 0.00965 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.250 | 0.67128 | 44.4 | 0.68093 | 42.5 | 9.99035 | 1.9 | 0.00965 |
| .251 | .67173 | | .68136 | | .99037 | | .00963 |
| .252 | .67217 | | .68178 | | .99039 | | .00961 |
| .253 | .67261 | | .68220 | | .99041 | | .00959 |
| .254 | .67306 | | .68263 | | .99043 | | .00957 |
| 2.255 | 0.67350 | 44.4 | 0.68305 | 42.5 | 9.99045 | 1.9 | 0.00955 |
| .256 | .67394 | | .68348 | | .99047 | | .00953 |
| .257 | .67439 | | .68390 | | .99048 | | .00952 |
| .258 | .67483 | | .68433 | | .99050 | | .00950 |
| .259 | .67528 | | .68475 | | .99052 | | .00948 |
| 2.260 | 0.67572 | 44.4 | 0.68518 | 42.5 | 9.99054 | 1.9 | 0.00946 |
| .261 | .67616 | | .68560 | | .99056 | | .00944 |
| .262 | .67661 | | .68603 | | .99058 | | .00942 |
| .263 | .67705 | | .68645 | | .99060 | | .00940 |
| .264 | .67750 | | .68688 | | .99062 | | .00938 |
| 2.265 | 0.67794 | 44.4 | 0.68730 | 42.5 | 9.99064 | 1.9 | 0.00936 |
| .266 | .67838 | | .68773 | | .99065 | | .00935 |
| .267 | .67883 | | .68815 | | .99067 | | .00933 |
| .268 | .67927 | | .68858 | | .99069 | | .00931 |
| .269 | .67971 | | .68900 | | .99071 | | .00929 |
| 2.270 | 0.68016 | 44.4 | 0.68943 | 42.5 | 9.99073 | 1.9 | 0.00927 |
| .271 | .68060 | | .68985 | | .99075 | | .00925 |
| .272 | .68105 | | .69028 | | .99077 | 1.8 | .00923 |
| .273 | .68149 | | .69070 | | .99078 | | .00922 |
| .274 | .68193 | | .69113 | | .99080 | | .00920 |
| 2.275 | 0.68238 | 44.4 | 0.69156 | 42.5 | 9.99082 | 1.8 | 0.00918 |
| .276 | .68282 | | .69198 | | .99084 | | .00916 |
| .277 | .68326 | | .69241 | | .99086 | | .00914 |
| .278 | .68371 | | .69283 | | .99088 | | .00912 |
| .279 | .68415 | 44.3 | .69326 | | .99089 | | .00911 |
| 2.280 | 0.68459 | 44.3 | 0.69368 | 42.5 | 9.99091 | 1.8 | 0.00909 |
| .281 | .68504 | | .69411 | | .99093 | | .00907 |
| .282 | .68548 | | .69453 | | .99095 | | .00905 |
| .283 | .68592 | | .69496 | | .99097 | | .00903 |
| .284 | .68637 | | .69538 | | .99098 | | .00902 |
| 2.285 | 0.68681 | 44.3 | 0.69581 | 42.5 | 9.99100 | 1.8 | 0.00900 |
| .286 | .68725 | | .69623 | | .99102 | | .00898 |
| .287 | .68770 | | .69666 | | .99104 | | .00896 |
| .288 | .68814 | | .69708 | | .99106 | | .00894 |
| .289 | .68858 | | .69751 | | .99107 | | .00893 |
| 2.290 | 0.68903 | 44.3 | 0.69794 | 42.5 | 9.99109 | 1.8 | 0.00891 |
| .291 | .68947 | | .69836 | | .99111 | | .00889 |
| .292 | .68991 | | .69879 | 42.6 | .99113 | | .00887 |
| .293 | .69036 | | .69921 | | .99115 | | .00885 |
| .294 | .69080 | | .69964 | | .99116 | | .00884 |
| 2.295 | 0.69124 | 44.3 | 0.70006 | 42.6 | 9.99118 | 1.8 | 0.00882 |
| .296 | .69169 | | .70049 | | .99120 | | .00880 |
| .297 | .69213 | | .70091 | | .99122 | | .00878 |
| .298 | .69257 | | .70134 | | .99123 | | .00877 |
| .299 | .69302 | | .70177 | | .99125 | 1.7 | .00875 |
| 2.300 | 0.69346 | 44.3 | 0.70219 | 42.6 | 9.99127 | 1.7 | 0.00873 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.300 | 0.69346 | 44,3 | 0.70219 | 42,6 | 9.99127 | 1,7 | 0.00873 |
| .301 | .69390 | | .70262 | | .99129 | | .00871 |
| .302 | .69435 | | .70304 | | .99130 | | .00870 |
| .303 | .69479 | | .70347 | | .99132 | | .00868 |
| .304 | .69523 | | .70389 | | .99134 | | .00866 |
| 2.305 | 0.69568 | 44,3 | 0.70432 | 42,6 | 9.99136 | 1,7 | 0.00864 |
| .306 | .69612 | | .70475 | | .99137 | | .00863 |
| .307 | .69656 | | .70517 | | .99139 | | .00861 |
| .308 | .69700 | | .70560 | | .99141 | | .00859 |
| .309 | .69745 | | .70602 | | .99142 | | .00858 |
| 2.310 | 0.69789 | 44,3 | 0.70645 | 42,6 | 9.99144 | 1,7 | 0.00856 |
| .311 | .69833 | | .70687 | | .99146 | | .00854 |
| .312 | .69878 | | .70730 | | .99148 | | .00852 |
| .313 | .69922 | | .70773 | | .99149 | | .00851 |
| .314 | .69966 | | .70815 | | .99151 | | .00849 |
| 2.315 | 0.70010 | 44,3 | 0.70858 | 42,6 | 9.99153 | 1,7 | 0.00847 |
| .316 | .70055 | | .70900 | | .99154 | | .00846 |
| .317 | .70099 | | .70943 | | .99156 | | .00844 |
| .318 | .70143 | | .70986 | | .99158 | | .00842 |
| .319 | .70188 | | .71028 | | .99159 | | .00841 |
| 2.320 | 0.70232 | 44,3 | 0.71071 | 42,6 | 9.99161 | 1,7 | 0.00839 |
| .321 | .70276 | | .71113 | | .99163 | | .00837 |
| .322 | .70320 | | .71156 | | .99164 | | .00836 |
| .323 | .70365 | | .71199 | | .99166 | | .00834 |
| .324 | .70409 | | .71241 | | .99168 | | .00832 |
| 2.325 | 0.70453 | 44,3 | 0.71284 | 42,6 | 9.99169 | 1,7 | 0.00831 |
| .326 | .70497 | | .71326 | | .99171 | | .00829 |
| .327 | .70542 | | .71369 | | .99173 | | .00827 |
| .328 | .70586 | | .71412 | | .99174 | | .00826 |
| .329 | .70630 | | .71454 | | .99176 | 1,6 | .00824 |
| 2.330 | 0.70675 | 44,3 | 0.71497 | 42,6 | 9.99178 | 1,6 | 0.00822 |
| .331 | .70719 | | .71539 | | .99179 | | .00821 |
| .332 | .70763 | | .71582 | | .99181 | | .00819 |
| .333 | .70807 | | .71625 | | .99183 | | .00817 |
| .334 | .70852 | | .71667 | | .99184 | | .00816 |
| 2.335 | 0.70896 | 44,3 | 0.71710 | 42,6 | 9.99186 | 1,6 | 0.00814 |
| .336 | .70940 | 44,2 | .71753 | | .99188 | | .00812 |
| .337 | .70984 | | .71795 | | .99189 | | .00811 |
| .338 | .71029 | | .71838 | | .99191 | | .00809 |
| .339 | .71073 | | .71880 | | .99192 | | .00808 |
| 2.340 | 0.71117 | 44,2 | 0.71923 | 42,6 | 9.99194 | 1,6 | 0.00806 |
| .341 | .71161 | | .71966 | | .99196 | | .00804 |
| .342 | .71206 | | .72008 | | .99197 | | .00803 |
| .343 | .71250 | | .72051 | | .99199 | | .00801 |
| .344 | .71294 | | .72094 | | .99200 | | .00800 |
| 2.345 | 0.71338 | 44,2 | 0.72136 | 42,6 | 9.99202 | 1,6 | 0.00798 |
| .346 | .71382 | | .72179 | | .99204 | | .00796 |
| .347 | .71427 | | .72221 | | .99205 | | .00795 |
| .348 | .71471 | | .72264 | | .99207 | | .00793 |
| .349 | .71515 | | .72307 | | .99208 | | .00792 |
| 2.350 | 0.71559 | 44,2 | 0.72349 | 42,6 | 9.99210 | 1,6 | 0.00790 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.350 | 0.71559 | 44,2 | 0.72349 | 42,6 | 9.99210 | 1,6 | 0.00790 |
| .351 | .71604 | | .72392 | | .99212 | | .00788 |
| .352 | .71648 | | .72435 | | .99213 | | .00787 |
| .353 | .71692 | | .72477 | 42,7 | .99215 | | .00785 |
| .354 | .71736 | | .72520 | | .99216 | | .00784 |
| 2.355 | 0.71781 | 44,2 | 0.72563 | 42,7 | 9.99218 | 1,6 | 0.00782 |
| .356 | .71825 | | .72605 | | .99219 | | .00781 |
| .357 | .71869 | | .72648 | | .99221 | | .00779 |
| .358 | .71913 | | .72691 | | .99223 | | .00777 |
| .359 | .71957 | | .72733 | | .99224 | | .00776 |
| 2.360 | 0.72002 | 44,2 | 0.72776 | 42,7 | 9.99226 | 1,5 | 0.00774 |
| .361 | .72046 | | .72819 | | .99227 | | .00773 |
| .362 | .72090 | | .72851 | | .99229 | | .00771 |
| .363 | .72134 | | .72904 | | .99230 | | .00770 |
| .364 | .72178 | | .72947 | | .99232 | | .00768 |
| 2.365 | 0.72223 | 44,2 | 0.72989 | 42,7 | 9.99233 | 1,5 | 0.00767 |
| .366 | .72267 | | .73032 | | .99235 | | .00765 |
| .367 | .72311 | | .73075 | | .99236 | | .00764 |
| .368 | .72355 | | .73117 | | .99238 | | .00762 |
| .369 | .72399 | | .73160 | | .99239 | | .00761 |
| 2.370 | 0.72444 | 44,2 | 0.73203 | 42,7 | 9.99241 | 1,5 | 0.00759 |
| .371 | .72488 | | .73245 | | .99242 | | .00758 |
| .372 | .72532 | | .73288 | | .99244 | | .00756 |
| .373 | .72576 | | .73331 | | .99245 | | .00755 |
| .374 | .72620 | | .73373 | | .99247 | | .00753 |
| 2.375 | 0.72665 | 44,2 | 0.73416 | 42,7 | 9.99249 | 1,5 | 0.00751 |
| .376 | .72709 | | .73459 | | .99250 | | .00750 |
| .377 | .72753 | | .73501 | | .99252 | | .00748 |
| .378 | .72797 | | .73544 | | .99253 | | .00747 |
| .379 | .72841 | | .73587 | | .99254 | | .00746 |
| 2.380 | 0.72885 | 44,2 | 0.73630 | 42,7 | 9.99256 | 1,5 | 0.00744 |
| .381 | .72930 | | .73672 | | .99257 | | .00743 |
| .382 | .72974 | | .73715 | | .99259 | | .00741 |
| .383 | .73018 | | .73758 | | .99260 | | .00740 |
| .384 | .73062 | | .73800 | | .99262 | | .00738 |
| 2.385 | 0.73106 | 44,2 | 0.73843 | 42,7 | 9.99263 | 1,5 | 0.00737 |
| .386 | .73151 | | .73886 | | .99265 | | .00735 |
| .387 | .73195 | | .73928 | | .99266 | | .00734 |
| .388 | .73239 | | .73971 | | .99268 | | .00732 |
| .389 | .73283 | | .74014 | | .99269 | | .00731 |
| 2.390 | 0.73327 | 44,2 | 0.74056 | 42,7 | 9.99271 | 1,5 | 0.00729 |
| .391 | .73371 | | .74099 | | .99272 | | .00728 |
| .392 | .73416 | | .74142 | | .99274 | | .00726 |
| .393 | .73460 | | .74185 | | .99275 | 1,4 | .00725 |
| .394 | .73504 | | .74227 | | .99277 | | .00723 |
| 2.395 | 0.73548 | 44,2 | 0.74270 | 42,7 | 9.99278 | 1,4 | 0.00722 |
| .396 | .73592 | | .74313 | | .99279 | | .00721 |
| .397 | .73636 | | .74355 | | .99281 | | .00719 |
| .398 | .73680 | | .74398 | | .99282 | | .00718 |
| .399 | .73725 | | .74441 | | .99284 | | .00716 |
| 2.400 | 0.73769 | 44,2 | 0.74484 | 42,7 | 9.99285 | 1,4 | 0.00715 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\infty F_0'$ | log cosh u | $\infty F_0'$ | log tanh u | $\infty F_0'$ | log coth u |
|-------|------------|---------------|------------|---------------|------------|---------------|------------|
| 2.400 | 0.73769 | 44,2 | 0.74484 | 42,7 | 9.99285 | 1,4 | 0.00715 |
| .401 | .73813 | 44,1 | .74526 | | .99287 | | .00713 |
| .402 | .73857 | | .74569 | | .99288 | | .00712 |
| .403 | .73901 | | .74612 | | .99289 | | .00711 |
| .404 | .73945 | | .74655 | | .99291 | | .00709 |
| 2.405 | 0.73990 | 44,1 | 0.74697 | 42,7 | 9.99292 | 1,4 | 0.00708 |
| .406 | .74034 | | .74740 | | .99294 | | .00706 |
| .407 | .74078 | | .74783 | | .99295 | | .00705 |
| .408 | .74122 | | .74825 | | .99297 | | .00703 |
| .409 | .74166 | | .74868 | | .99298 | | .00702 |
| 2.410 | 0.74210 | 44,1 | 0.74911 | 42,7 | 9.99299 | 1,4 | 0.00701 |
| .411 | .74254 | | .74954 | | .99301 | | .00699 |
| .412 | .74298 | | .74996 | | .99302 | | .00698 |
| .413 | .74343 | | .75039 | | .99304 | | .00696 |
| .414 | .74387 | | .75082 | | .99305 | | .00695 |
| 2.415 | 0.74431 | 41,1 | 0.75125 | 42,7 | 9.99306 | 1,4 | 0.00694 |
| .416 | .74475 | | .75167 | | .99308 | | .00692 |
| .417 | .74519 | | .75210 | | .99309 | | .00691 |
| .418 | .74563 | | .75253 | | .99310 | | .00690 |
| .419 | .74607 | | .75296 | | .99312 | | .00688 |
| 2.420 | 0.74652 | 44,1 | 0.75338 | 42,7 | 9.99313 | 1,4 | 0.00687 |
| .421 | .74696 | | .75381 | | .99315 | | .00685 |
| .422 | .74740 | | .75424 | 42,8 | .99316 | | .00684 |
| .423 | .74784 | | .75467 | | .99317 | | .00683 |
| .424 | .74828 | | .75509 | | .99319 | | .00681 |
| 2.425 | 0.74872 | 44,1 | 0.75552 | 42,8 | 9.99320 | 1,4 | 0.00680 |
| .426 | .74916 | | .75595 | | .99321 | | .00679 |
| .427 | .74960 | | .75638 | | .99323 | | .00677 |
| .428 | .75004 | | .75680 | | .99324 | | .00676 |
| .429 | .75049 | | .75723 | | .99325 | 1,3 | .00675 |
| 2.430 | 0.75093 | 44,1 | 0.75766 | 42,8 | 9.99327 | 1,3 | 0.00673 |
| .431 | .75137 | | .75809 | | .99328 | | .00672 |
| .432 | .75181 | | .75851 | | .99329 | | .00671 |
| .433 | .75225 | | .75894 | | .99331 | | .00669 |
| .434 | .75269 | | .75937 | | .99332 | | .00668 |
| 2.435 | 0.75313 | 44,1 | 0.75980 | 42,8 | 9.99333 | 1,3 | 0.00667 |
| .436 | .75357 | | .76022 | | .99335 | | .00665 |
| .437 | .75401 | | .76065 | | .99336 | | .00664 |
| .438 | .75445 | | .76108 | | .99337 | | .00663 |
| .439 | .75490 | | .76151 | | .99339 | | .00661 |
| 2.440 | 0.75534 | 44,1 | 0.76194 | 42,8 | 9.99340 | 1,3 | 0.00660 |
| .441 | .75578 | | .76236 | | .99341 | | .00659 |
| .442 | .75622 | | .76279 | | .99343 | | .00657 |
| .443 | .75666 | | .76322 | | .99344 | | .00656 |
| .444 | .75710 | | .76365 | | .99345 | | .00655 |
| 2.445 | 0.75754 | 44,1 | 0.76407 | 42,8 | 9.99347 | 1,3 | 0.00653 |
| .446 | .75798 | | .76450 | | .99348 | | .00652 |
| .447 | .75842 | | .76493 | | .99349 | | .00651 |
| .448 | .75886 | | .76536 | | .99351 | | .00649 |
| .449 | .75930 | | .76579 | | .99352 | | .00648 |
| 2.450 | 0.75975 | 44,1 | 0.76621 | 42,8 | 9.99353 | 1,3 | 0.00647 |
| u | log tanh u | $\infty F_0'$ | log sec u | $\infty F_0'$ | log sin u | $\infty F_0'$ | log csc u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.450 | 0.75975 | 44,1 | 0.76621 | 42,8 | 9.99353 | 1,3 | 0.00647 |
| .451 | .76019 | | .76664 | | .99354 | | .00646 |
| .452 | .76063 | | .76707 | | .99356 | | .00644 |
| .453 | .76107 | | .76750 | | .99357 | | .00643 |
| .454 | .76151 | | .76793 | | .99358 | | .00642 |
| 2.455 | 0.76195 | 44,1 | 0.76835 | 42,8 | 9.99360 | 1,3 | 0.00640 |
| .456 | .76239 | | .76878 | | .99361 | | .00639 |
| .457 | .76283 | | .76921 | | .99362 | | .00638 |
| .458 | .76327 | | .76964 | | .99363 | | .00637 |
| .459 | .76371 | | .77006 | | .99365 | | .00635 |
| 2.460 | 0.76415 | 44,1 | 0.77049 | 42,8 | 9.99366 | 1,3 | 0.00634 |
| .461 | .76459 | | .77092 | | .99367 | | .00633 |
| .462 | .76503 | | .77135 | | .99369 | | .00631 |
| .463 | .76547 | | .77178 | | .99370 | | .00630 |
| .464 | .76592 | | .77220 | | .99371 | | .00629 |
| 2.465 | 0.76636 | 44,1 | 0.77263 | 42,8 | 9.99372 | 1,3 | 0.00628 |
| .466 | .76680 | | .77306 | | .99374 | | .00626 |
| .467 | .76724 | | .77349 | | .99375 | | .00625 |
| .468 | .76768 | | .77392 | | .99376 | 1,2 | .00624 |
| .469 | .76812 | | .77435 | | .99377 | | .00623 |
| 2.470 | 0.76856 | 44,1 | 0.77477 | 42,8 | 9.99379 | 1,2 | 0.00621 |
| .471 | .76900 | | .77520 | | .99380 | | .00620 |
| .472 | .76944 | | .77563 | | .99381 | | .00619 |
| .473 | .76988 | | .77606 | | .99382 | | .00618 |
| .474 | .77032 | | .77649 | | .99384 | | .00616 |
| 2.475 | 0.77076 | 44,0 | 0.77691 | 42,8 | 9.99385 | 1,2 | 0.00615 |
| .476 | .77120 | | .77734 | | .99386 | | .00614 |
| .477 | .77164 | | .77777 | | .99387 | | .00613 |
| .478 | .77208 | | .77820 | | .99388 | | .00612 |
| .479 | .77252 | | .77863 | | .99390 | | .00610 |
| 2.480 | 0.77296 | 44,0 | 0.77906 | 42,8 | 9.99391 | 1,2 | 0.00609 |
| .481 | .77340 | | .77948 | | .99392 | | .00608 |
| .482 | .77384 | | .77991 | | .99393 | | .00607 |
| .483 | .77429 | | .78034 | | .99394 | | .00606 |
| .484 | .77473 | | .78077 | | .99396 | | .00604 |
| 2.485 | 0.77517 | 44,0 | 0.78120 | 42,8 | 9.99397 | 1,2 | 0.00603 |
| .486 | .77561 | | .78163 | | .99398 | | .00602 |
| .487 | .77605 | | .78205 | | .99399 | | .00601 |
| .488 | .77649 | | .78248 | | .99401 | | .00599 |
| .489 | .77693 | | .78292 | | .99402 | | .00598 |
| 2.490 | 0.77737 | 44,0 | 0.78334 | 42,8 | 9.99403 | 1,2 | 0.00597 |
| .491 | .77781 | | .78377 | | .99404 | | .00596 |
| .492 | .77825 | | .78420 | | .99405 | | .00595 |
| .493 | .77869 | | .78462 | | .99406 | | .00594 |
| .494 | .77913 | | .78505 | | .99408 | | .00592 |
| 2.495 | 0.77957 | 44,0 | 0.78548 | 42,8 | 9.99409 | 1,2 | 0.00591 |
| .496 | .78001 | | .78591 | | .99410 | | .00590 |
| .497 | .78045 | | .78634 | | .99411 | | .00589 |
| .498 | .78089 | | .78677 | | .99412 | | .00588 |
| .499 | .78133 | | .78719 | | .99414 | | .00586 |
| 2.500 | 0.78177 | 44,0 | 0.78762 | 42,8 | 9.99415 | 1,2 | 0.00585 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.500 | 0.78177 | 44,0 | 0.78762 | 42,8 | 9.99415 | I,2 | 0.00585 |
| .501 | .78221 | | .78805 | | .99416 | | .00584 |
| .502 | .78265 | | .78848 | 42,9 | .99417 | | .00583 |
| .503 | .78309 | | .78891 | | .99418 | | .00582 |
| .504 | .78353 | | .78934 | | .99419 | | .00581 |
| 2.505 | 0.78397 | 44,0 | 0.78977 | 42,9 | 9.99421 | I,2 | 0.00579 |
| .506 | .78441 | | .79019 | | .99422 | | .00578 |
| .507 | .78485 | | .79062 | | .99423 | | .00577 |
| .508 | .78529 | | .79105 | | .99424 | | .00576 |
| .509 | .78573 | | .79148 | | .99425 | I,1 | .00575 |
| 2.510 | 0.78617 | 44,0 | 0.79191 | 42,9 | 9.99426 | I,1 | 0.00574 |
| .511 | .78661 | | .79234 | | .99427 | | .00573 |
| .512 | .78705 | | .79277 | | .99429 | | .00571 |
| .513 | .78749 | | .79319 | | .99430 | | .00570 |
| .514 | .78793 | | .79362 | | .99431 | | .00569 |
| 2.515 | 0.78837 | 44,0 | 0.79405 | 42,9 | 9.99432 | I,1 | 0.00568 |
| .516 | .78881 | | .79448 | | .99433 | | .00567 |
| .517 | .78925 | | .79491 | | .99434 | | .00566 |
| .518 | .78969 | | .79534 | | .99435 | | .00565 |
| .519 | .79013 | | .79577 | | .99437 | | .00563 |
| 2.520 | 0.79057 | 44,0 | 0.79619 | 42,9 | 9.99438 | I,1 | 0.00562 |
| .521 | .79101 | | .79662 | | .99439 | | .00561 |
| .522 | .79145 | | .79705 | | .99440 | | .00560 |
| .523 | .79189 | | .79748 | | .99441 | | .00559 |
| .524 | .79233 | | .79791 | | .99442 | | .00558 |
| 2.525 | 0.79277 | 44,0 | 0.79834 | 42,9 | 9.99443 | I,1 | 0.00557 |
| .526 | .79321 | | .79877 | | .99444 | | .00556 |
| .527 | .79365 | | .79920 | | .99446 | | .00554 |
| .528 | .79409 | | .79962 | | .99447 | | .00553 |
| .529 | .79453 | | .80005 | | .99448 | | .00552 |
| 2.530 | 0.79497 | 44,0 | 0.80048 | 42,9 | 9.99449 | I,1 | 0.00551 |
| .531 | .79541 | | .80091 | | .99450 | | .00550 |
| .532 | .79585 | | .80134 | | .99451 | | .00549 |
| .533 | .79629 | | .80177 | | .99452 | | .00548 |
| .534 | .79673 | | .80220 | | .99453 | | .00547 |
| 2.535 | 0.79717 | 44,0 | 0.80263 | 42,9 | 9.99454 | I,1 | 0.00546 |
| .536 | .79761 | | .80306 | | .99455 | | .00545 |
| .537 | .79805 | | .80348 | | .99456 | | .00544 |
| .538 | .79849 | | .80391 | | .99458 | | .00542 |
| .539 | .79893 | | .80434 | | .99459 | | .00541 |
| 2.540 | 0.79937 | 44,0 | 0.80477 | 42,9 | 9.99460 | I,1 | 0.00540 |
| .541 | .79981 | | .80520 | | .99461 | | .00539 |
| .542 | .80025 | | .80563 | | .99462 | | .00538 |
| .543 | .80069 | | .80606 | | .99463 | | .00537 |
| .544 | .80113 | | .80649 | | .99464 | | .00536 |
| 2.545 | 0.80157 | 44,0 | 0.80692 | 42,9 | 9.99465 | I,1 | 0.00535 |
| .546 | .80201 | | .80734 | | .99466 | | .00534 |
| .547 | .80245 | | .80777 | | .99467 | | .00533 |
| .548 | .80289 | | .80820 | | .99468 | | .00532 |
| .549 | .80333 | | .80863 | | .99469 | | .00531 |
| 2.550 | 0.80377 | 44,0 | 0.80906 | 42,9 | 9.99470 | I,1 | 0.00530 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.550 | 0.80377 | 44,0 | 0.80906 | 42,9 | 9.99470 | I, I | 0.00530 |
| .551 | .80420 | | .80949 | | .99471 | | .00529 |
| .552 | .80464 | | .80992 | | .99473 | | .00527 |
| .553 | .80508 | | .81035 | | .99474 | | .00526 |
| .554 | .80552 | | .81078 | | .99475 | | .00525 |
| 2.555 | 0.80596 | 44,0 | 0.81121 | 42,9 | 9.99476 | I, 0 | 0.00524 |
| .556 | .80640 | | .81164 | | .99477 | | .00523 |
| .557 | .80684 | | .81206 | | .99478 | | .00522 |
| .558 | .80728 | | .81249 | | .99479 | | .00521 |
| .559 | .80772 | | .81292 | | .99480 | | .00520 |
| 2.560 | 0.80816 | 44,0 | 0.81335 | 42,9 | 9.99481 | I, 0 | 0.00519 |
| .561 | .80860 | | .81378 | | .99482 | | .00518 |
| .562 | .80904 | 43,9 | .81421 | | .99483 | | .00517 |
| .563 | .80948 | | .81464 | | .99484 | | .00516 |
| .564 | .80992 | | .81507 | | .99485 | | .00515 |
| 2.565 | 0.81036 | 43,9 | 0.81550 | 42,9 | 9.99486 | I, 0 | 0.00514 |
| .566 | .81080 | | .81593 | | .99487 | | .00513 |
| .567 | .81124 | | .81636 | | .99488 | | .00512 |
| .568 | .81168 | | .81678 | | .99489 | | .00511 |
| .569 | .81212 | | .81721 | | .99490 | | .00510 |
| 2.570 | 0.81256 | 43,9 | 0.81764 | 42,9 | 9.99491 | I, 0 | 0.00509 |
| .571 | .81299 | | .81807 | | .99492 | | .00508 |
| .572 | .81343 | | .81850 | | .99493 | | .00507 |
| .573 | .81387 | | .81893 | | .99494 | | .00506 |
| .574 | .81431 | | .81936 | | .99495 | | .00505 |
| 2.575 | 0.81475 | 43,9 | 0.81979 | 42,9 | 9.99496 | I, 0 | 0.00504 |
| .576 | .81519 | | .82022 | | .99497 | | .00503 |
| .577 | .81563 | | .82065 | | .99498 | | .00502 |
| .578 | .81607 | | .82108 | | .99499 | | .00501 |
| .579 | .81651 | | .82151 | | .99500 | | .00500 |
| 2.580 | 0.81695 | 43,9 | 0.82194 | 42,9 | 9.99501 | I, 0 | 0.00499 |
| .581 | .81739 | | .82237 | | .99502 | | .00498 |
| .582 | .81783 | | .82279 | | .99503 | | .00497 |
| .583 | .81827 | | .82322 | | .99504 | | .00496 |
| .584 | .81871 | | .82365 | | .99505 | | .00495 |
| 2.585 | 0.81915 | 43,9 | 0.82408 | 42,9 | 9.99506 | I, 0 | 0.00494 |
| .586 | .81958 | | .82451 | | .99507 | | .00493 |
| .587 | .82002 | | .82494 | | .99508 | | .00492 |
| .588 | .82046 | | .82537 | | .99509 | | .00491 |
| .589 | .82090 | | .82580 | | .99510 | | .00490 |
| 2.590 | 0.82134 | 43,9 | 0.82623 | 42,9 | 9.99511 | I, 0 | 0.00489 |
| .591 | .82178 | | .82666 | | .99512 | | .00488 |
| .592 | .82222 | | .82709 | | .99513 | | .00487 |
| .593 | .82266 | | .82752 | | .99514 | | .00486 |
| .594 | .82310 | | .82795 | | .99515 | | .00485 |
| 2.595 | 0.82354 | 43,9 | 0.82838 | 42,9 | 9.99516 | I, 0 | 0.00484 |
| .596 | .82398 | | .82881 | | .99517 | | .00483 |
| .597 | .82442 | | .82924 | 43,0 | .99518 | | .00482 |
| .598 | .82485 | | .82967 | | .99519 | | .00481 |
| .599 | .82529 | | .83010 | | .99520 | | .00480 |
| 2.600 | 0.82573 | 43,9 | 0.83052 | 43,0 | 9.99521 | I, 0 | 0.00479 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.600 | 0.82573 | 43,9 | 0.83052 | 43,0 | 9.99521 | 1,0 | 0.00479 |
| .601 | .82617 | | .83095 | | .99522 | | .00478 |
| .602 | .82661 | | .83138 | | .99523 | | .00477 |
| .603 | .82705 | | .83181 | | .99524 | | .00476 |
| .604 | .82749 | | .83224 | | .99525 | | .00475 |
| 2.605 | 0.82793 | 43,9 | 0.83267 | 43,0 | 9.99526 | 0,9 | 0.00474 |
| .606 | .82837 | | .83310 | | .99527 | | .00473 |
| .607 | .82881 | | .83353 | | .99527 | | .00473 |
| .608 | .82925 | | .83396 | | .99528 | | .00472 |
| .609 | .82968 | | .83439 | | .99529 | | .00471 |
| 2.610 | 0.83012 | 43,9 | 0.83482 | 43,0 | 9.99530 | 0,9 | 0.00470 |
| .611 | .83056 | | .83525 | | .99531 | | .00469 |
| .612 | .83100 | | .83568 | | .99532 | | .00468 |
| .613 | .83144 | | .83611 | | .99533 | | .00467 |
| .614 | .83188 | | .83654 | | .99534 | | .00466 |
| 2.615 | 0.83232 | 43,9 | 0.83697 | 43,0 | 9.99535 | 0,9 | 0.00465 |
| .616 | .83276 | | .83740 | | .99536 | | .00464 |
| .617 | .83320 | | .83783 | | .99537 | | .00463 |
| .618 | .83364 | | .83826 | | .99538 | | .00462 |
| .619 | .83407 | | .83869 | | .99539 | | .00461 |
| 2.620 | 0.83451 | 43,9 | 0.83912 | 43,0 | 9.99540 | 0,9 | 0.00460 |
| .621 | .83495 | | .83955 | | .99541 | | .00459 |
| .622 | .83539 | | .83998 | | .99541 | | .00459 |
| .623 | .83583 | | .84041 | | .99542 | | .00458 |
| .624 | .83627 | | .84084 | | .99543 | | .00457 |
| 2.625 | 0.83671 | 43,9 | 0.84127 | 43,0 | 9.99544 | 0,9 | 0.00456 |
| .626 | .83715 | | .84170 | | .99545 | | .00455 |
| .627 | .83759 | | .84213 | | .99546 | | .00454 |
| .628 | .83802 | | .84256 | | .99547 | | .00453 |
| .629 | .83846 | | .84299 | | .99548 | | .00452 |
| 2.630 | 0.83890 | 43,9 | 0.84341 | 43,0 | 9.99549 | 0,9 | 0.00451 |
| .631 | .83934 | | .84384 | | .99550 | | .00450 |
| .632 | .83978 | | .84427 | | .99551 | | .00449 |
| .633 | .84022 | | .84470 | | .99551 | | .00449 |
| .634 | .84066 | | .84513 | | .99552 | | .00448 |
| 2.635 | 0.84110 | 43,9 | 0.84556 | 43,0 | 9.99553 | 0,9 | 0.00447 |
| .636 | .84154 | | .84599 | | .99554 | | .00446 |
| .637 | .84197 | | .84642 | | .99555 | | .00445 |
| .638 | .84241 | | .84685 | | .99556 | | .00444 |
| .639 | .84285 | | .84728 | | .99557 | | .00443 |
| 2.640 | 0.84329 | 43,9 | 0.84771 | 43,0 | 9.99558 | 0,9 | 0.00442 |
| .641 | .84373 | | .84814 | | .99559 | | .00441 |
| .642 | .84417 | | .84857 | | .99559 | | .00441 |
| .643 | .84461 | | .84900 | | .99560 | | .00440 |
| .644 | .84505 | | .84943 | | .99561 | | .00439 |
| 2.645 | 0.84548 | 43,9 | 0.84986 | 43,0 | 9.99562 | 0,9 | 0.00438 |
| .646 | .84592 | | .85029 | | .99563 | | .00437 |
| .647 | .84636 | | .85072 | | .99564 | | .00436 |
| .648 | .84680 | | .85115 | | .99565 | | .00435 |
| .649 | .84724 | | .85158 | | .99566 | | .00434 |
| 2.650 | 0.84768 | 43,9 | 0.85201 | 43,0 | 9.99566 | 0,9 | 0.00434 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.650 | 0.84768 | 43,9 | 0.85201 | 43,0 | 9.99566 | 0,9 | 0.00434 |
| .651 | .84812 | | .85244 | | .99567 | | .00433 |
| .652 | .84855 | | .85287 | | .99568 | | .00432 |
| .653 | .84899 | | .85330 | | .99569 | | .00431 |
| .654 | .84943 | | .85373 | | .99570 | | .00430 |
| 2.655 | 0.84987 | 43,9 | 0.85416 | 43,0 | 9.99571 | 0,9 | 0.00429 |
| .656 | .85031 | | .85459 | | .99572 | | .00428 |
| .657 | .85075 | | .85502 | | .99572 | | .00428 |
| .658 | .85119 | | .85545 | | .99573 | | .00427 |
| .659 | .85162 | | .85588 | | .99574 | | .00426 |
| 2.660 | 0.85206 | 43,9 | 0.85631 | 43,0 | 9.99575 | 0,8 | 0.00425 |
| .661 | .85250 | | .85674 | | .99576 | | .00424 |
| .662 | .85294 | | .85717 | | .99577 | | .00423 |
| .663 | .85338 | | .85760 | | .99578 | | .00422 |
| .664 | .85382 | | .85803 | | .99578 | | .00422 |
| 2.665 | 0.85426 | 43,9 | 0.85846 | 43,0 | 9.99579 | 0,8 | 0.00421 |
| .666 | .85469 | | .85889 | | .99580 | | .00420 |
| .667 | .85513 | | .85932 | | .99581 | | .00419 |
| .668 | .85557 | 43,8 | .85975 | | .99582 | | .00418 |
| .669 | .85601 | | .86018 | | .99583 | | .00417 |
| 2.670 | 0.85645 | 43,8 | 0.86061 | 43,0 | 9.99583 | 0,8 | 0.00417 |
| .671 | .85689 | | .86104 | | .99584 | | .00416 |
| .672 | .85733 | | .86147 | | .99585 | | .00415 |
| .673 | .85776 | | .86190 | | .99586 | | .00414 |
| .674 | .85820 | | .86233 | | .99587 | | .00413 |
| 2.675 | 0.85864 | 43,8 | 0.86276 | 43,0 | 9.99588 | 0,8 | 0.00412 |
| .676 | .85908 | | .86320 | | .99588 | | .00412 |
| .677 | .85952 | | .86363 | | .99589 | | .00411 |
| .678 | .85996 | | .86406 | | .99590 | | .00410 |
| .679 | .86039 | | .86449 | | .99591 | | .00409 |
| 2.680 | 0.86083 | 43,8 | 0.86492 | 43,0 | 9.99592 | 0,8 | 0.00408 |
| .681 | .86127 | | .86535 | | .99592 | | .00408 |
| .682 | .86171 | | .86578 | | .99593 | | .00407 |
| .683 | .86215 | | .86621 | | .99594 | | .00406 |
| .684 | .86259 | | .86664 | | .99595 | | .00405 |
| 2.685 | 0.86302 | 43,8 | 0.86707 | 43,0 | 9.99596 | 0,8 | 0.00404 |
| .686 | .86346 | | .86750 | | .99597 | | .00403 |
| .687 | .86390 | | .86793 | | .99597 | | .00403 |
| .688 | .86434 | | .86836 | | .99598 | | .00402 |
| .689 | .86478 | | .86879 | | .99599 | | .00401 |
| 2.690 | 0.86522 | 43,8 | 0.86922 | 43,0 | 9.99600 | 0,8 | 0.00400 |
| .691 | .86565 | | .86965 | | .99601 | | .00399 |
| .692 | .86609 | | .87008 | | .99601 | | .00399 |
| .693 | .86653 | | .87051 | | .99602 | | .00398 |
| .694 | .86697 | | .87094 | | .99603 | | .00397 |
| 2.695 | 0.86741 | 43,8 | 0.87137 | 43,0 | 9.99604 | 0,8 | 0.00396 |
| .696 | .86785 | | .87180 | | .99605 | | .00395 |
| .697 | .86828 | | .87223 | | .99605 | | .00395 |
| .698 | .86872 | | .87266 | | .99606 | | .00394 |
| .699 | .86916 | | .87309 | | .99607 | | .00393 |
| 2.700 | 0.86960 | 43,8 | 0.87352 | 43,0 | 9.99608 | 0,8 | 0.00392 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.700 | 0.86960 | 43,8 | 0.87352 | 43,0 | 9.99608 | 0,8 | 0.00392 |
| .701 | .87004 | | .87395 | | .99608 | | .00392 |
| .702 | .87048 | | .87438 | | .99609 | | .00391 |
| .703 | .87091 | | .87481 | | .99610 | | .00390 |
| .704 | .87135 | | .87524 | | .99611 | | .00389 |
| 2.705 | 0.87179 | 43,8 | 0.87567 | 43,0 | 9.99612 | 0,8 | 0.00388 |
| .706 | .87223 | | .87610 | | .99612 | | .00388 |
| .707 | .87267 | | .87654 | | .99613 | | .00387 |
| .708 | .87310 | | .87697 | | .99614 | | .00386 |
| .709 | .87354 | | .87740 | | .99615 | | .00385 |
| 2.710 | 0.87398 | 43,8 | 0.87783 | 43,0 | 9.99615 | 0,8 | 0.00385 |
| .711 | .87442 | | .87826 | | .99616 | | .00384 |
| .712 | .87486 | | .87869 | | .99617 | | .00383 |
| .713 | .87530 | | .87912 | | .99618 | | .00382 |
| .714 | .87573 | | .87955 | | .99619 | | .00381 |
| 2.715 | 0.87617 | 43,8 | 0.87998 | 43,1 | 9.99619 | 0,8 | 0.00381 |
| .716 | .87661 | | .88041 | | .99620 | | .00380 |
| .717 | .87705 | | .88084 | | .99621 | | .00379 |
| .718 | .87749 | | .88127 | | .99622 | | .00378 |
| .719 | .87792 | | .88170 | | .99622 | | .00378 |
| 2.720 | 0.87836 | 43,8 | 0.88213 | 43,1 | 9.99623 | 0,8 | 0.00377 |
| .721 | .87880 | | .88256 | | .99624 | | .00376 |
| .722 | .87924 | | .88299 | | .99625 | | .00375 |
| .723 | .87968 | | .88342 | | .99625 | 0,7 | .00375 |
| .724 | .88011 | | .88385 | | .99626 | | .00374 |
| 2.725 | 0.88055 | 43,8 | 0.88428 | 43,1 | 9.99627 | 0,7 | 0.00373 |
| .726 | .88099 | | .88471 | | .99628 | | .00372 |
| .727 | .88143 | | .88515 | | .99628 | | .00372 |
| .728 | .88187 | | .88558 | | .99629 | | .00371 |
| .729 | .88230 | | .88601 | | .99630 | | .00370 |
| 2.730 | 0.88274 | 43,8 | 0.88644 | 43,1 | 9.99631 | 0,7 | 0.00369 |
| .731 | .88318 | | .88687 | | .99631 | | .00369 |
| .732 | .88362 | | .88730 | | .99632 | | .00368 |
| .733 | .88406 | | .88773 | | .99633 | | .00367 |
| .734 | .88449 | | .88816 | | .99633 | | .00367 |
| 2.735 | 0.88493 | 43,8 | 0.88859 | 43,1 | 9.99634 | 0,7 | 0.00366 |
| .736 | .88537 | | .88902 | | .99635 | | .00365 |
| .737 | .88581 | | .88945 | | .99636 | | .00364 |
| .738 | .88625 | | .88988 | | .99636 | | .00364 |
| .739 | .88668 | | .89031 | | .99637 | | .00363 |
| 2.740 | 0.88712 | 43,8 | 0.89074 | 43,1 | 9.99638 | 0,7 | 0.00362 |
| .741 | .88756 | | .89117 | | .99639 | | .00361 |
| .742 | .88800 | | .89161 | | .99639 | | .00361 |
| .743 | .88844 | | .89204 | | .99640 | | .00360 |
| .744 | .88887 | | .89247 | | .99641 | | .00359 |
| 2.745 | 0.88931 | 43,8 | 0.89290 | 43,1 | 9.99641 | 0,7 | 0.00359 |
| .746 | .88975 | | .89333 | | .99642 | | .00358 |
| .747 | .89019 | | .89376 | | .99643 | | .00357 |
| .748 | .89063 | | .89419 | | .99644 | | .00356 |
| .749 | .89106 | | .89462 | | .99644 | | .00356 |
| 2.750 | 0.89150 | 43,8 | 0.89505 | 43,1 | 9.99645 | 0,7 | 0.00355 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.750 | 0.89150 | 43,8 | 0.89505 | 43,1 | 9.99645 | 0,7 | 0.00355 |
| .751 | .89104 | | .89548 | | .99646 | | .00354 |
| .752 | .89238 | | .89591 | | .99646 | | .00354 |
| .753 | .89281 | | .89634 | | .99647 | | .00353 |
| .754 | .89325 | | .89677 | | .99648 | | .00352 |
| 2.755 | 0.89369 | 43,8 | 0.89720 | 43,1 | 9.99649 | 0,7 | 0.00351 |
| .756 | .89413 | | .89764 | | .99649 | | .00351 |
| .757 | .89457 | | .89807 | | .99650 | | .00350 |
| .758 | .89500 | | .89850 | | .99651 | | .00349 |
| .759 | .89544 | | .89893 | | .99651 | | .00349 |
| 2.760 | 0.89588 | 43,8 | 0.89936 | 43,1 | 9.99652 | 0,7 | 0.00348 |
| .761 | .89632 | | .89979 | | .99653 | | .00347 |
| .762 | .89676 | | .90022 | | .99653 | | .00347 |
| .763 | .89719 | | .90065 | | .99654 | | .00346 |
| .764 | .89763 | | .90108 | | .99655 | | .00345 |
| 2.765 | 0.89807 | 43,8 | 0.90151 | 43,1 | 9.99656 | 0,7 | 0.00344 |
| .766 | .89851 | | .90194 | | .99656 | | .00344 |
| .767 | .89894 | | .90237 | | .99657 | | .00343 |
| .768 | .89938 | | .90280 | | .99658 | | .00342 |
| .769 | .89982 | | .90324 | | .99658 | | .00342 |
| 2.770 | 0.90026 | 43,8 | 0.90367 | 43,1 | 9.99659 | 0,7 | 0.00341 |
| .771 | .90069 | | .90410 | | .99660 | | .00340 |
| .772 | .90113 | | .90453 | | .99660 | | .00340 |
| .773 | .90157 | | .90496 | | .99661 | | .00339 |
| .774 | .90201 | | .90539 | | .99662 | | .00338 |
| 2.775 | 0.90245 | 43,8 | 0.90582 | 43,1 | 9.99662 | 0,7 | 0.00338 |
| .776 | .90288 | | .90625 | | .99663 | | .00337 |
| .777 | .90332 | | .90668 | | .99664 | | .00336 |
| .778 | .90376 | | .90712 | | .99664 | | .00336 |
| .779 | .90420 | | .90755 | | .99665 | | .00335 |
| 2.780 | 0.90463 | 43,8 | 0.90798 | 43,1 | 9.99666 | 0,7 | 0.00334 |
| .781 | .90507 | | .90841 | | .99666 | | .00334 |
| .782 | .90551 | | .90884 | | .99667 | | .00333 |
| .783 | .90595 | | .90927 | | .99668 | | .00332 |
| .784 | .90638 | | .90970 | | .99668 | | .00332 |
| 2.785 | 0.90682 | 43,8 | 0.91013 | 43,1 | 9.99669 | 0,7 | 0.00331 |
| .786 | .90726 | | .91056 | | .99670 | | .00330 |
| .787 | .90770 | | .91099 | | .99670 | | .00330 |
| .788 | .90813 | | .91142 | | .99671 | | .00329 |
| .789 | .90857 | | .91186 | | .99672 | | .00328 |
| 2.790 | 0.90901 | 43,8 | 0.91229 | 43,1 | 9.99672 | 0,7 | 0.00328 |
| .791 | .90945 | | .91272 | | .99673 | | .00327 |
| .792 | .90989 | | .91315 | | .99674 | | .00326 |
| .793 | .91032 | | .91358 | | .99674 | | .00326 |
| .794 | .91076 | | .91401 | | .99675 | | .00325 |
| 2.795 | 0.91120 | 43,8 | 0.91444 | 43,1 | 9.99676 | 0,6 | 0.00324 |
| .796 | .91164 | | .91487 | | .99676 | | .00324 |
| .797 | .91207 | | .91530 | | .99677 | | .00323 |
| .798 | .91251 | | .91574 | | .99678 | | .00322 |
| .799 | .91295 | | .91617 | | .99678 | | .00322 |
| 2.800 | 0.91339 | 43,8 | 0.91660 | 43,1 | 9.99679 | 0,6 | 0.00321 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.800 | 0.91339 | 43.8 | 0.91650 | 43.1 | 9.99679 | 0,6 | 0.00321 |
| .801 | .91382 | | .91703 | | .99679 | | .00321 |
| .802 | .91426 | | .91746 | | .99680 | | .00320 |
| .803 | .91470 | 43.7 | .91789 | | .99681 | | .00319 |
| .804 | .91514 | | .91832 | | .99681 | | .00319 |
| 2.805 | 0.91557 | 43.7 | 0.91875 | 43.1 | 9.99682 | 0,6 | 0.00318 |
| .806 | .91601 | | .91918 | | .99683 | | .00317 |
| .807 | .91645 | | .91962 | | .99683 | | .00317 |
| .808 | .91689 | | .92005 | | .99684 | | .00316 |
| .809 | .91732 | | .92048 | | .99685 | | .00315 |
| 2.810 | 0.91776 | 43.7 | 0.92091 | 43.1 | 9.99685 | 0,6 | 0.00315 |
| .811 | .91820 | | .92134 | | .99686 | | .00314 |
| .812 | .91864 | | .92177 | | .99686 | | .00314 |
| .813 | .91907 | | .92220 | | .99687 | | .00313 |
| .814 | .91951 | | .92263 | | .99688 | | .00312 |
| 2.815 | 0.91995 | 43.7 | 0.92306 | 43.1 | 9.99688 | 0,6 | 0.00312 |
| .816 | .92039 | | .92350 | | .99689 | | .00311 |
| .817 | .92082 | | .92393 | | .99690 | | .00310 |
| .818 | .92126 | | .92436 | | .99690 | | .00310 |
| .819 | .92170 | | .92479 | | .99691 | | .00309 |
| 2.820 | 0.92213 | 43.7 | 0.92522 | 43.1 | 9.99691 | 0,6 | 0.00309 |
| .821 | .92257 | | .92565 | | .99692 | | .00308 |
| .822 | .92301 | | .92608 | | .99693 | | .00307 |
| .823 | .92345 | | .92651 | | .99693 | | .00307 |
| .824 | .92388 | | .92695 | | .99694 | | .00306 |
| 2.825 | 0.92432 | 43.7 | 0.92738 | 43.1 | 9.99694 | 0,6 | 0.00306 |
| .826 | .92476 | | .92781 | | .99695 | | .00305 |
| .827 | .92520 | | .92824 | | .99696 | | .00304 |
| .828 | .92563 | | .92867 | | .99696 | | .00304 |
| .829 | .92607 | | .92910 | | .99697 | | .00303 |
| 2.830 | 0.92651 | 43.7 | 0.92953 | 43.1 | 9.99698 | 0,6 | 0.00302 |
| .831 | .92695 | | .92996 | | .99698 | | .00302 |
| .832 | .92738 | | .93040 | | .99699 | | .00301 |
| .833 | .92782 | | .93083 | | .99699 | | .00301 |
| .834 | .92826 | | .93126 | | .99700 | | .00300 |
| 2.835 | 0.92869 | 43.7 | 0.93169 | 43.1 | 9.99701 | 0,6 | 0.00299 |
| .836 | .92913 | | .93212 | | .99701 | | .00299 |
| .837 | .92957 | | .93255 | | .99702 | | .00298 |
| .838 | .93001 | | .93298 | | .99702 | | .00298 |
| .839 | .93044 | | .93341 | | .99703 | | .00297 |
| 2.840 | 0.93088 | 43.7 | 0.93385 | 43.1 | 9.99704 | 0,6 | 0.00296 |
| .841 | .93132 | | .93428 | | .99704 | | .00296 |
| .842 | .93176 | | .93471 | | .99705 | | .00295 |
| .843 | .93219 | | .93514 | | .99705 | | .00295 |
| .844 | .93263 | | .93557 | | .99706 | | .00294 |
| 2.845 | 0.93307 | 43.7 | 0.93600 | 43.1 | 9.99706 | 0,6 | 0.00294 |
| .846 | .93350 | | .93643 | | .99707 | | .00293 |
| .847 | .93394 | | .93687 | | .99708 | | .00292 |
| .848 | .93438 | | .93730 | | .99708 | | .00292 |
| .849 | .93482 | | .93773 | | .99709 | | .00291 |
| 2.850 | 0.93525 | 43.7 | 0.93816 | 43.1 | 9.99709 | 0,6 | 0.00291 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.850 | 0.93525 | 43,7 | 0.93816 | 43,1 | 9.99709 | 0,6 | 0.00291 |
| .851 | .93569 | | .93859 | | .99710 | | .00290 |
| .852 | .93613 | | .93902 | | .99711 | | .00289 |
| .853 | .93657 | | .93945 | | .99712 | | .00288 |
| .854 | .93700 | | .93989 | | | | |
| 2.855 | 0.93744 | 43,7 | 0.94032 | 43,1 | 9.99712 | 0,6 | 0.00288 |
| .856 | .93788 | | .94075 | | .99713 | | .00287 |
| .857 | .93831 | | .94118 | | .99713 | | .00287 |
| .858 | .93875 | | .94161 | | .99714 | | .00286 |
| .859 | .93919 | | .94204 | | .99715 | | .00285 |
| 2.860 | 0.93963 | 43,7 | 0.94247 | 43,1 | 9.99715 | 0,6 | 0.00285 |
| .861 | .94006 | | .94291 | | .99716 | | .00284 |
| .862 | .94050 | | .94334 | | .99716 | | .00284 |
| .863 | .94094 | | .94377 | | .99717 | | .00283 |
| .864 | .94137 | | .94420 | | .99717 | | .00283 |
| 2.865 | 0.94181 | 43,7 | 0.94463 | 43,1 | 9.99718 | 0,6 | 0.00282 |
| .866 | .94225 | | .94506 | | .99719 | | .00281 |
| .867 | .94269 | | .94549 | | .99719 | | .00281 |
| .868 | .94312 | | .94593 | | .99720 | | .00280 |
| .869 | .94356 | | .94636 | 43,2 | .99720 | | .00280 |
| 2.870 | 0.94400 | 43,7 | 0.94679 | 43,2 | 9.99721 | 0,6 | 0.00279 |
| .871 | .94443 | | .94722 | | .99721 | | .00279 |
| .872 | .94487 | | .94765 | | .99722 | | .00278 |
| .873 | .94531 | | .94808 | | .99722 | | .00278 |
| .874 | .94575 | | .94852 | | .99723 | | .00277 |
| 2.875 | 0.94618 | 43,7 | 0.94895 | 43,2 | 9.99724 | 0,6 | 0.00276 |
| .876 | .94662 | | .94938 | | .99724 | | .00276 |
| .877 | .94706 | | .94981 | | .99725 | | .00275 |
| .878 | .94749 | | .95024 | | .99725 | 0,5 | .00275 |
| .879 | .94793 | | .95067 | | .99726 | | .00274 |
| 2.880 | 0.94837 | 43,7 | 0.95110 | 43,2 | 9.99726 | 0,5 | 0.00274 |
| .881 | .94880 | | .95154 | | .99727 | | .00273 |
| .882 | .94924 | | .95197 | | .99727 | | .00273 |
| .883 | .94968 | | .95240 | | .99728 | | .00272 |
| .884 | .95012 | | .95283 | | .99728 | | .00272 |
| 2.885 | 0.95055 | 43,7 | 0.95326 | 43,2 | 9.99729 | 0,5 | 0.00271 |
| .886 | .95099 | | .95369 | | .99730 | | .00270 |
| .887 | .95143 | | .95413 | | .99730 | | .00270 |
| .888 | .95186 | | .95456 | | .99731 | | .00269 |
| .889 | .95230 | | .95499 | | .99731 | | .00269 |
| 2.890 | 0.95274 | 43,7 | 0.95542 | 43,2 | 9.99732 | 0,5 | 0.00268 |
| .891 | .95317 | | .95585 | | .99732 | | .00268 |
| .892 | .95361 | | .95628 | | .99733 | | .00267 |
| .893 | .95405 | | .95672 | | .99733 | | .00267 |
| .894 | .95449 | | .95715 | | .99734 | | .00266 |
| 2.895 | 0.95492 | 43,7 | 0.95758 | 43,2 | 9.99734 | 0,5 | 0.00266 |
| .896 | .95536 | | .95801 | | .99735 | | .00265 |
| .897 | .95580 | | .95844 | | .99735 | | .00265 |
| .898 | .95623 | | .95887 | | .99736 | | .00264 |
| .899 | .95667 | | .95931 | | .99737 | | .00263 |
| 2.900 | 0.95711 | 43,7 | 0.95974 | 43,2 | 9.99737 | 0,5 | 0.00263 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.900 | 0.95711 | 43,7 | 0.95974 | 43,2 | 9.99737 | 0,5 | 0.00263 |
| .901 | .95754 | | .96017 | | .99738 | | .00262 |
| .902 | .95798 | | .96060 | | .99738 | | .00262 |
| .903 | .95842 | | .96103 | | .99739 | | .00261 |
| .904 | .95885 | | .96146 | | .99739 | | .00261 |
| 2.905 | 0.95929 | 43,7 | 0.96190 | 43,2 | 9.99740 | 0,5 | 0.00260 |
| .906 | .95973 | | .96233 | | .99740 | | .00260 |
| .907 | .96017 | | .96276 | | .99741 | | .00259 |
| .908 | .96060 | | .96319 | | .99741 | | .00259 |
| .909 | .96104 | | .96362 | | .99742 | | .00258 |
| 2.910 | 0.96148 | 43,7 | 0.96405 | 43,2 | 9.99742 | 0,5 | 0.00258 |
| .911 | .96191 | | .96449 | | .99743 | | .00257 |
| .912 | .96235 | | .96492 | | .99743 | | .00257 |
| .913 | .96279 | | .96535 | | .99744 | | .00256 |
| .914 | .96322 | | .96578 | | .99744 | | .00256 |
| 2.915 | 0.96366 | 43,7 | 0.96621 | 43,2 | 9.99745 | 0,5 | 0.00255 |
| .916 | .96410 | | .96664 | | .99745 | | .00255 |
| .917 | .96453 | | .96708 | | .99746 | | .00254 |
| .918 | .96497 | | .96751 | | .99746 | | .00254 |
| .919 | .96541 | | .96794 | | .99747 | | .00253 |
| 2.920 | 0.96584 | 43,7 | 0.96837 | 43,2 | 9.99747 | 0,5 | 0.00253 |
| .921 | .96628 | | .96880 | | .99748 | | .00252 |
| .922 | .96672 | | .96923 | | .99748 | | .00252 |
| .923 | .96716 | | .96967 | | .99749 | | .00251 |
| .924 | .96759 | | .97010 | | .99749 | | .00251 |
| 2.925 | 0.96803 | 43,7 | 0.97053 | 43,2 | 9.99750 | 0,5 | 0.00250 |
| .926 | .96847 | | .97096 | | .99750 | | .00250 |
| .927 | .96890 | | .97139 | | .99751 | | .00249 |
| .928 | .96934 | | .97183 | | .99751 | | .00249 |
| .929 | .96978 | | .97226 | | .99752 | | .00248 |
| 2.930 | 0.97021 | 43,7 | 0.97269 | 43,2 | 9.99752 | 0,5 | 0.00248 |
| .931 | .97065 | | .97312 | | .99753 | | .00247 |
| .932 | .97109 | | .97355 | | .99753 | | .00247 |
| .933 | .97152 | | .97398 | | .99754 | | .00246 |
| .934 | .97196 | | .97442 | | .99754 | | .00246 |
| 2.935 | 0.97240 | 43,7 | 0.97485 | 43,2 | 9.99755 | 0,5 | 0.00245 |
| .936 | .97283 | | .97528 | | .99755 | | .00245 |
| .937 | .97327 | | .97571 | | .99756 | | .00244 |
| .938 | .97371 | | .97614 | | .99756 | | .00244 |
| .939 | .97414 | | .97658 | | .99757 | | .00243 |
| 2.940 | 0.97458 | 43,7 | 0.97701 | 43,2 | 9.99757 | 0,5 | 0.00243 |
| .941 | .97502 | | .97744 | | .99758 | | .00242 |
| .942 | .97545 | | .97787 | | .99758 | | .00242 |
| .943 | .97589 | | .97830 | | .99759 | | .00241 |
| .944 | .97633 | | .97874 | | .99759 | | .00241 |
| 2.945 | 0.97676 | 43,7 | 0.97917 | 43,2 | 9.99760 | 0,5 | 0.00240 |
| .946 | .97720 | | .97960 | | .99760 | | .00240 |
| .947 | .97764 | | .98003 | | .99761 | | .00239 |
| .948 | .97807 | | .98046 | | .99761 | | .00239 |
| .949 | .97851 | | .98089 | | .99762 | | .00238 |
| 2.950 | 0.97895 | 43,7 | 0.98133 | 43,2 | 9.99762 | 0,5 | 0.00238 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|-------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 2.950 | 0.97895 | 43,7 | 0.98133 | 43,2 | 9.99762 | 0,5 | 0.00238 |
| .951 | .97938 | | .98176 | | .99763 | | .00237 |
| .952 | .97982 | | .98219 | | .99763 | | .00237 |
| .953 | .98026 | | .98262 | | .99763 | | .00237 |
| .954 | .98069 | | .98305 | | .99764 | | .00236 |
| 2.955 | 0.98113 | 43,7 | 0.98349 | 43,2 | 9.99764 | 0,5 | 0.00236 |
| .956 | .98157 | | .98392 | | .99765 | | .00235 |
| .957 | .98200 | | .98435 | | .99765 | | .00235 |
| .958 | .98244 | | .98478 | | .99766 | | .00234 |
| .959 | .98288 | | .98521 | | .99766 | | .00234 |
| 2.960 | 0.98331 | 43,7 | 0.98565 | 43,2 | 9.99767 | 0,5 | 0.00233 |
| .961 | .98375 | | .98608 | | .99767 | | .00233 |
| .962 | .98419 | | .98651 | | .99768 | | .00232 |
| .963 | .98462 | | .98694 | | .99768 | | .00232 |
| .964 | .98506 | | .98737 | | .99769 | | .00231 |
| 2.965 | 0.98550 | 43,7 | 0.98781 | 43,2 | 9.99769 | 0,5 | 0.00231 |
| .966 | .98593 | | .98824 | | .99770 | | .00230 |
| .967 | .98637 | | .98867 | | .99770 | | .00230 |
| .968 | .98681 | | .98910 | | .99770 | | .00230 |
| .969 | .98724 | | .98953 | | .99771 | | .00229 |
| 2.970 | 0.98768 | 43,7 | 0.98997 | 43,2 | 9.99771 | 0,5 | 0.00229 |
| .971 | .98812 | | .99040 | | .99772 | | .00228 |
| .972 | .98855 | | .99083 | | .99772 | | .00228 |
| .973 | .98899 | | .99126 | | .99773 | | .00227 |
| .974 | .98943 | | .99169 | | .99773 | | .00227 |
| 2.975 | 0.98986 | 43,7 | 0.99213 | 43,2 | 9.99774 | 0,5 | 0.00226 |
| .976 | .99030 | | .99256 | | .99774 | | .00226 |
| .977 | .99074 | | .99299 | | .99775 | | .00225 |
| .978 | .99117 | | .99342 | | .99775 | 0,4 | .00225 |
| .979 | .99161 | | .99385 | | .99775 | | .00225 |
| 2.980 | 0.99205 | 43,7 | 0.99429 | 43,2 | 9.99776 | 0,4 | 0.00224 |
| .981 | .99248 | | .99472 | | .99776 | | .00224 |
| .982 | .99292 | | .99515 | | .99777 | | .00223 |
| .983 | .99336 | | .99558 | | .99777 | | .00223 |
| .984 | .99379 | | .99601 | | .99778 | | .00222 |
| 2.985 | 0.99423 | 43,7 | 0.99645 | 43,2 | 9.99778 | 0,4 | 0.00222 |
| .986 | .99466 | | .99688 | | .99779 | | .00221 |
| .987 | .99510 | | .99731 | | .99779 | | .00221 |
| .988 | .99554 | | .99774 | | .99779 | | .00221 |
| .989 | .99597 | | .99818 | | .99780 | | .00220 |
| 2.990 | 0.99641 | 43,6 | 0.99861 | 43,2 | 9.99780 | 0,4 | 0.00220 |
| .991 | .99685 | | .99904 | | .99781 | | .00219 |
| .992 | .99728 | | .99947 | | .99781 | | .00219 |
| .993 | .99772 | | .99990 | | .99782 | | .00218 |
| .994 | .99816 | | 1.00034 | | .99782 | | .00218 |
| 2.995 | 0.99859 | 43,6 | 1.00077 | 43,2 | 9.99783 | 0,4 | 0.00217 |
| .996 | .99903 | | .00120 | | .99783 | | .00217 |
| .997 | .99947 | | .00163 | | .99783 | | .00217 |
| .998 | .99990 | | .00206 | | .99784 | | .00216 |
| .999 | 1.00034 | | .00250 | | .99784 | | .00216 |
| 3.000 | 1.00078 | 43,6 | 1.00293 | 43,2 | 9.99785 | 0,4 | 0.00215 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 3.00 | 1.00078 | 436,5 | 1.00293 | 432,1 | 9.99785 | 4,3 | 0.00215 |
| .01 | .00514 | 436,4 | .00725 | 432,2 | .99789 | 4,2 | .00211 |
| .02 | .00950 | 436,4 | .01157 | 432,2 | .99793 | 4,1 | .00207 |
| .03 | .01387 | 436,3 | .01589 | 432,3 | .99797 | 4,1 | .00203 |
| .04 | .01823 | 436,3 | .02022 | 432,3 | .99801 | 4,0 | .00199 |
| 3.05 | 1.02259 | 436,2 | 1.02454 | 432,4 | 9.99805 | 3,9 | 0.00195 |
| .06 | .02696 | 436,2 | .02886 | 432,4 | .99809 | 3,8 | .00191 |
| .07 | .03132 | 436,2 | .03319 | 432,4 | .99813 | 3,7 | .00187 |
| .08 | .03568 | 436,1 | .03751 | 432,5 | .99817 | 3,7 | .00183 |
| .09 | .04004 | 436,1 | .04184 | 432,5 | .99820 | 3,6 | .00180 |
| 3.10 | 1.04440 | 436,1 | 1.04616 | 432,5 | 9.99824 | 3,5 | 0.00176 |
| .11 | .04876 | 436,0 | .05049 | 432,6 | .99827 | 3,4 | .00173 |
| .12 | .05312 | 436,0 | .05481 | 432,6 | .99831 | 3,4 | .00169 |
| .13 | .05748 | 436,0 | .05914 | 432,6 | .99834 | 3,3 | .00166 |
| .14 | .06184 | 435,9 | .06347 | 432,7 | .99837 | 3,3 | .00163 |
| 3.15 | 1.06620 | 435,9 | 1.06779 | 432,7 | 9.99841 | 3,2 | 0.00159 |
| .16 | .07056 | 435,9 | .07212 | 432,7 | .99844 | 3,1 | .00156 |
| .17 | .07492 | 435,8 | .07645 | 432,8 | .99847 | 3,1 | .00153 |
| .18 | .07927 | 435,8 | .08078 | 432,8 | .99850 | 3,0 | .00150 |
| .19 | .08363 | 435,8 | .08510 | 432,8 | .99853 | 2,9 | .00147 |
| 3.20 | 1.08799 | 435,7 | 1.08943 | 432,9 | 9.99856 | 2,9 | 0.00144 |
| .21 | .09235 | 435,7 | .09376 | 432,9 | .99859 | 2,8 | .00141 |
| .22 | .09670 | 435,7 | .09809 | 432,9 | .99861 | 2,8 | .00139 |
| .23 | .10106 | 435,7 | .10242 | 432,9 | .99864 | 2,7 | .00136 |
| .24 | .10542 | 435,6 | .10675 | 433,0 | .99867 | 2,7 | .00133 |
| 3.25 | 1.10977 | 435,6 | 1.11108 | 433,0 | 9.99869 | 2,6 | 0.00131 |
| .26 | .11413 | 435,6 | .11541 | 433,0 | .99872 | 2,6 | .00128 |
| .27 | .11849 | 435,6 | .11974 | 433,0 | .99875 | 2,5 | .00125 |
| .28 | .12284 | 435,5 | .12407 | 433,1 | .99877 | 2,5 | .00123 |
| .29 | .12720 | 435,5 | .12840 | 433,1 | .99879 | 2,4 | .00121 |
| 3.30 | 1.13155 | 435,5 | 1.13273 | 433,1 | 9.99882 | 2,4 | 0.00118 |
| .31 | .13591 | 435,5 | .13706 | 433,1 | .99884 | 2,3 | .00116 |
| .32 | .14026 | 435,4 | .14139 | 433,2 | .99886 | 2,3 | .00114 |
| .33 | .14461 | 435,4 | .14573 | 433,2 | .99889 | 2,2 | .00111 |
| .34 | .14897 | 435,4 | .15006 | 433,2 | .99891 | 2,2 | .00109 |
| 3.35 | 1.15332 | 435,4 | 1.15439 | 433,2 | 9.99893 | 2,1 | 0.00107 |
| .36 | .15768 | 435,3 | .15872 | 433,2 | .99895 | 2,1 | .00105 |
| .37 | .16203 | 435,3 | .16306 | 433,3 | .99897 | 2,1 | .00103 |
| .38 | .16638 | 435,3 | .16739 | 433,3 | .99899 | 2,0 | .00101 |
| .39 | .17073 | 435,3 | .17172 | 433,3 | .99901 | 2,0 | .00099 |
| 3.40 | 1.17509 | 435,3 | 1.17605 | 433,3 | 9.99903 | 1,9 | 0.00097 |
| .41 | .17944 | 435,2 | .18039 | 433,3 | .99905 | 1,9 | .00095 |
| .42 | .18379 | 435,2 | .18472 | 433,4 | .99907 | 1,9 | .00093 |
| .43 | .18814 | 435,2 | .18906 | 433,4 | .99909 | 1,8 | .00091 |
| .44 | .19250 | 435,2 | .19339 | 433,4 | .99911 | 1,8 | .00089 |
| 3.45 | 1.19685 | 435,2 | 1.19772 | 433,4 | 9.99912 | 1,8 | 0.00088 |
| .46 | .20120 | 435,2 | .20206 | 433,4 | .99914 | 1,7 | .00086 |
| .47 | .20555 | 435,1 | .20639 | 433,5 | .99916 | 1,7 | .00084 |
| .48 | .20990 | 435,1 | .21073 | 433,5 | .99918 | 1,6 | .00082 |
| .49 | .21425 | 435,1 | .21506 | 433,5 | .99919 | 1,6 | .00081 |
| 3.50 | 1.21860 | 435,1 | 1.21940 | 433,5 | 9.99921 | 1,6 | 0.00079 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 3.50 | 1.21860 | 435,1 | 1.21940 | 433,5 | 9.99921 | 1,6 | 0.00079 |
| .51 | .22296 | | .22373 | | .99922 | | .00078 |
| .52 | .22731 | | .22807 | | .99924 | 1,5 | .00076 |
| .53 | .23166 | 435,0 | .23240 | | .99925 | | .00075 |
| .54 | .23601 | | .23674 | 433,6 | .99927 | | .00073 |
| 3.55 | 1.24036 | 435,0 | 1.24107 | 433,6 | 9.99928 | 1,4 | 0.00072 |
| .56 | .24471 | | .24541 | | .99930 | | .00070 |
| .57 | .24906 | | .24975 | | .99931 | | .00069 |
| .58 | .25341 | | .25408 | | .99933 | 1,3 | .00067 |
| .59 | .25776 | | .25842 | | .99934 | | .00066 |
| 3.60 | 1.26211 | 434,9 | 1.26275 | 433,6 | 9.99935 | 1,3 | 0.00065 |
| .61 | .26646 | | .26709 | 433,7 | .99936 | | .00064 |
| .62 | .27080 | | .27143 | | .99938 | 1,2 | .00062 |
| .63 | .27515 | | .27576 | | .99939 | | .00061 |
| .64 | .27950 | | .28010 | | .99940 | | .00060 |
| 3.65 | 1.28385 | 434,9 | 1.28444 | 433,7 | 9.99941 | 1,2 | 0.00059 |
| .66 | .28820 | | .28878 | | .99942 | | .00058 |
| .67 | .29255 | | .29311 | | .99944 | 1,1 | .00056 |
| .68 | .29690 | 434,8 | .29745 | | .99945 | | .00055 |
| .69 | .30125 | | .30179 | 433,8 | .99946 | | .00054 |
| 3.70 | 1.30559 | 434,8 | 1.30612 | 433,8 | 9.99947 | 1,1 | 0.00053 |
| .71 | .30994 | | .31046 | | .99948 | 1,0 | .00052 |
| .72 | .31429 | | .31480 | | .99949 | | .00051 |
| .73 | .31864 | | .31914 | | .99950 | | .00050 |
| .74 | .32299 | | .32348 | | .99951 | | .00049 |
| 3.75 | 1.32733 | 434,8 | 1.32781 | 433,8 | 9.99952 | 1,0 | 0.00048 |
| .76 | .33168 | | .33215 | | .99953 | 0,9 | .00047 |
| .77 | .33603 | | .33649 | | .99954 | | .00046 |
| .78 | .34038 | 434,7 | .34083 | | .99955 | | .00045 |
| .79 | .34472 | | .34517 | 433,9 | .99956 | | .00044 |
| 3.80 | 1.34907 | 434,7 | 1.34951 | 433,9 | 9.99957 | 0,9 | 0.00043 |
| .81 | .35342 | | .35384 | | .99957 | | .00043 |
| .82 | .35777 | | .35818 | | .99958 | 0,8 | .00042 |
| .83 | .36211 | | .36252 | | .99959 | | .00041 |
| .84 | .36646 | | .36686 | | .99960 | | .00040 |
| 3.85 | 1.37081 | 434,7 | 1.37120 | 433,9 | 9.99961 | 0,8 | 0.00039 |
| .86 | .37515 | | .37554 | | .99961 | | .00039 |
| .87 | .37950 | | .37988 | | .99962 | | .00038 |
| .88 | .38385 | | .38422 | | .99963 | 0,7 | .00037 |
| .89 | .38819 | | .38856 | | .99964 | | .00036 |
| 3.90 | 1.39254 | 434,7 | 1.39290 | 433,9 | 9.99964 | 0,7 | 0.00036 |
| .91 | .39689 | 434,6 | .39724 | | .99965 | | .00035 |
| .92 | .40123 | | .40158 | 434,0 | .99966 | | .00034 |
| .93 | .40558 | | .40591 | | .99966 | | .00034 |
| .94 | .40993 | | .41025 | | .99967 | | .00033 |
| 3.95 | 1.41427 | 434,6 | 1.41459 | 434,0 | 9.99968 | 0,6 | 0.00032 |
| .96 | .41862 | | .41893 | | .99968 | | .00032 |
| .97 | .42296 | | .42327 | | .99969 | | .00031 |
| .98 | .42731 | | .42761 | | .99970 | | .00030 |
| .99 | .43166 | | .43195 | | .99970 | | .00030 |
| 4.00 | 1.43600 | 434,6 | 1.43629 | 434,0 | 9.99971 | 0,6 | 0.00029 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 4.00 | 1.43600 | 434,6 | 1.43629 | 434,0 | 9.99971 | 0,6 | 0.00029 |
| .01 | .44035 | | .44063 | | .99971 | | .00029 |
| .02 | .44469 | | .44497 | | .99972 | | .00028 |
| .03 | .44904 | | .44931 | | .99973 | 0,5 | .00027 |
| .04 | .45339 | | .45365 | | .99973 | | .00027 |
| 4.05 | 1.45773 | 434,6 | 1.45799 | 434,0 | 9.99974 | 0,5 | 0.00026 |
| .06 | .46208 | | .46233 | | .99974 | | .00026 |
| .07 | .46642 | 434,5 | .46668 | | .99975 | | .00025 |
| .08 | .47077 | | .47102 | | .99975 | | .00025 |
| .09 | .47511 | | .47536 | 434,1 | .99976 | | .00024 |
| 4.10 | 1.47946 | 434,5 | 1.47970 | 434,1 | 9.99976 | 0,5 | 0.00024 |
| .11 | .48380 | | .48404 | | .99977 | | .00023 |
| .12 | .48815 | | .48838 | | .99977 | | .00023 |
| .13 | .49249 | | .49272 | | .99978 | 0,4 | .00022 |
| .14 | .49684 | | .49706 | | .99978 | | .00022 |
| 4.15 | 1.50118 | 434,5 | 1.50140 | 434,1 | 9.99978 | 0,4 | 0.00022 |
| .16 | .50553 | | .50574 | | .99979 | | .00021 |
| .17 | .50987 | | .51008 | | .99979 | | .00021 |
| .18 | .51422 | | .51442 | | .99980 | | .00020 |
| .19 | .51856 | | .51876 | | .99980 | | .00020 |
| 4.20 | 1.52291 | 434,5 | 1.52310 | 434,1 | 9.99980 | 0,4 | 0.00020 |
| .21 | .52725 | | .52745 | | .99981 | | .00019 |
| .22 | .53160 | | .53179 | | .99981 | | .00019 |
| .23 | .53594 | | .53613 | | .99982 | | .00018 |
| .24 | .54029 | | .54047 | | .99982 | | .00018 |
| 4.25 | 1.54463 | 434,5 | 1.54481 | 434,1 | 9.99982 | 0,4 | 0.00018 |
| .26 | .54898 | | .54915 | | .99983 | 0,3 | .00017 |
| .27 | .55332 | | .55349 | | .99983 | | .00017 |
| .28 | .55767 | | .55783 | | .99983 | | .00017 |
| .29 | .56201 | | .56217 | | .99984 | | .00016 |
| 4.30 | 1.56636 | 434,5 | 1.56652 | 434,1 | 9.99984 | 0,3 | 0.00016 |
| .31 | .57070 | | .57086 | | .99984 | | .00016 |
| .32 | .57505 | 434,4 | .57520 | | .99985 | | .00015 |
| .33 | .57939 | | .57954 | | .99985 | | .00015 |
| .34 | .58373 | | .58388 | | .99985 | | .00015 |
| 4.35 | 1.58808 | 434,4 | 1.58822 | 434,1 | 9.99986 | 0,3 | 0.00014 |
| .36 | .59242 | | .59256 | 434,2 | .99986 | | .00014 |
| .37 | .59677 | | .59691 | | .99986 | | .00014 |
| .38 | .60111 | | .60125 | | .99986 | | .00014 |
| .39 | .60546 | | .60559 | | .99987 | | .00013 |
| 4.40 | 1.60980 | 434,4 | 1.60993 | 434,2 | 9.99987 | 0,3 | 0.00013 |
| .41 | .61414 | | .61427 | | .99987 | | .00013 |
| .42 | .61849 | | .61861 | | .99987 | | .00013 |
| .43 | .62283 | | .62296 | | .99988 | 0,2 | .00012 |
| .44 | .62718 | | .62730 | | .99988 | | .00012 |
| 4.45 | 1.63152 | 434,4 | 1.63164 | 434,2 | 9.99988 | 0,2 | 0.00012 |
| .46 | .63587 | | .63598 | | .99988 | | .00012 |
| .47 | .64021 | | .64032 | | .99989 | | .00011 |
| .48 | .64455 | | .64467 | | .99989 | | .00011 |
| .49 | .64890 | | .64901 | | .99989 | | .00011 |
| 4.50 | 1.65324 | 434,4 | 1.65335 | 434,2 | 9.99989 | 0,2 | 0.00011 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 4.50 | 1.65324 | 434.4 | 1.65335 | 434.2 | 9.99989 | 0,2 | 0.00011 |
| .51 | .65759 | | .65769 | | .99989 | | .00011 |
| .52 | .66193 | | .66203 | | .99990 | | .00010 |
| .53 | .66627 | | .66637 | | .99990 | | .00010 |
| .54 | .67062 | | .67072 | | .99990 | | .00010 |
| 4.55 | 1.67496 | 434.4 | 1.67506 | 434.2 | 9.99990 | 0,2 | 0.00010 |
| .56 | .67931 | | .67940 | | .99990 | | .00010 |
| .57 | .68365 | | .68374 | | .99991 | | .00009 |
| .58 | .68799 | | .68808 | | .99991 | | .00009 |
| .59 | .69234 | | .69243 | | .99991 | | .00009 |
| 4.60 | 1.69668 | 434.4 | 1.69677 | 434.2 | 9.99991 | 0,2 | 0.00009 |
| .61 | .70102 | | .70111 | | .99991 | | .00009 |
| .62 | .70537 | | .70545 | | .99992 | | .00008 |
| .63 | .70971 | | .70979 | | .99992 | | .00008 |
| .64 | .71406 | | .71414 | | .99992 | | .00008 |
| 4.65 | 1.71840 | 434.4 | 1.71848 | 434.2 | 9.99992 | 0,2 | 0.00008 |
| .66 | .72274 | | .72282 | | .99992 | | .00008 |
| .67 | .72709 | | .72716 | | .99992 | | .00008 |
| .68 | .73143 | | .73151 | | .99993 | 0,1 | .00007 |
| .69 | .73577 | | .73585 | | .99993 | | .00007 |
| 4.70 | 1.74012 | 434.4 | 1.74019 | 434.2 | 9.99993 | 0,1 | 0.00007 |
| .71 | .74446 | | .74453 | | .99993 | | .00007 |
| .72 | .74881 | | .74887 | | .99993 | | .00007 |
| .73 | .75315 | | .75322 | | .99993 | | .00007 |
| .74 | .75749 | | .75756 | | .99993 | | .00007 |
| 4.75 | 1.76184 | 434.4 | 1.76190 | 434.2 | 9.99993 | 0,1 | 0.00007 |
| .76 | .76618 | | .76624 | | .99994 | | .00006 |
| .77 | .77052 | | .77059 | | .99994 | | .00006 |
| .78 | .77487 | | .77493 | | .99994 | | .00006 |
| .79 | .77921 | | .77927 | | .99994 | | .00006 |
| 4.80 | 1.78355 | 434.4 | 1.78361 | 434.2 | 9.99994 | 0,1 | 0.00006 |
| .81 | .78790 | | .78796 | | .99994 | | .00006 |
| .82 | .79224 | | .79230 | | .99994 | | .00006 |
| .83 | .79658 | 434.3 | .79664 | | .99994 | | .00006 |
| .84 | .80093 | | .80098 | | .99995 | | .00005 |
| 4.85 | 1.80527 | 434.3 | 1.80532 | 434.2 | 9.99995 | 0,1 | 0.00005 |
| .86 | .80962 | | .80967 | | .99995 | | .00005 |
| .87 | .81396 | | .81401 | | .99995 | | .00005 |
| .88 | .81830 | | .81835 | | .99995 | | .00005 |
| .89 | .82265 | | .82269 | | .99995 | | .00005 |
| 4.90 | 1.82699 | 434.3 | 1.82704 | 434.2 | 9.99995 | 0,1 | 0.00005 |
| .91 | .83133 | | .83138 | | .99995 | | .00005 |
| .92 | .83568 | | .83572 | | .99995 | | .00005 |
| .93 | .84002 | | .84006 | | .99995 | | .00005 |
| .94 | .84436 | | .84441 | 434.3 | .99996 | | .00004 |
| 4.95 | 1.84871 | 434.3 | 1.84875 | 434.3 | 9.99996 | 0,1 | 0.00004 |
| .96 | .85305 | | .85309 | | .99996 | | .00004 |
| .97 | .85739 | | .85743 | | .99996 | | .00004 |
| .98 | .86174 | | .86178 | | .99996 | | .00004 |
| .99 | .86608 | | .86612 | | .99996 | | .00004 |
| 5.00 | 1.87042 | 434.3 | 1.87046 | 434.3 | 9.99996 | 0,1 | 0.00004 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 5.00 | 1.87042 | 434.3 | 1.87046 | 434.3 | 9.99996 | 0,1 | 0.00004 |
| .01 | .87477 | | .87480 | | .99996 | | .00004 |
| .02 | .87911 | | .87915 | | .99996 | | .00004 |
| .03 | .88345 | | .88349 | | .99996 | | .00004 |
| .04 | .88780 | | .88783 | | .99996 | | .00004 |
| 5.05 | 1.89214 | 434.3 | 1.89217 | 434.3 | 9.99996 | 0,1 | 0.00004 |
| .06 | .89648 | | .89652 | | .99997 | | .00003 |
| .07 | .90083 | | .90086 | | .99997 | | .00003 |
| .08 | .90517 | | .90520 | | .99997 | | .00003 |
| .09 | .90951 | | .90955 | | .99997 | | .00003 |
| 5.10 | 1.91386 | 434.3 | 1.91389 | 434.3 | 9.99997 | 0,1 | 0.00003 |
| .11 | .91820 | | .91823 | | .99997 | | .00003 |
| .12 | .92254 | | .92257 | | .99997 | | .00003 |
| .13 | .92689 | | .92692 | | .99997 | | .00003 |
| .14 | .93123 | | .93126 | | .99997 | | .00003 |
| 5.15 | 1.93557 | 434.3 | 1.93560 | 434.3 | 9.99997 | 0,1 | 0.00003 |
| .16 | .93992 | | .93994 | | .99997 | | .00003 |
| .17 | .94426 | | .94429 | | .99997 | | .00003 |
| .18 | .94860 | | .94863 | | .99997 | | .00003 |
| .19 | .95294 | | .95297 | | .99997 | | .00003 |
| 5.20 | 1.95729 | 434.3 | 1.95731 | 434.3 | 9.99997 | 0,1 | 0.00003 |
| .21 | .96163 | | .96166 | | .99997 | | .00003 |
| .22 | .96597 | | .96600 | | .99997 | | .00003 |
| .23 | .97032 | | .97034 | | .99998 | 0,0 | .00002 |
| .24 | .97466 | | .97469 | | .99998 | | .00002 |
| 5.25 | 1.97900 | 434.3 | 1.97903 | 434.3 | 9.99998 | 0,0 | 0.00002 |
| .26 | .98335 | | .98337 | | .99998 | | .00002 |
| .27 | .98769 | | .98771 | | .99998 | | .00002 |
| .28 | .99203 | | .99206 | | .99998 | | .00002 |
| .29 | .99638 | | .99640 | | .99998 | | .00002 |
| 5.30 | 2.00072 | 434.3 | 2.00074 | 434.3 | 9.99998 | 0,0 | 0.00002 |
| .31 | .00506 | | .00508 | | .99998 | | .00002 |
| .32 | .00941 | | .00943 | | .99998 | | .00002 |
| .33 | .01375 | | .01377 | | .99998 | | .00002 |
| .34 | .01809 | | .01811 | | .99998 | | .00002 |
| 5.35 | 2.02244 | 434.3 | 2.02246 | 434.3 | 9.99998 | 0,0 | 0.00002 |
| .36 | .02678 | | .02680 | | .99998 | | .00002 |
| .37 | .03112 | | .03114 | | .99998 | | .00002 |
| .38 | .03547 | | .03548 | | .99998 | | .00002 |
| .39 | .03981 | | .03983 | | .99998 | | .00002 |
| 5.40 | 2.04415 | 434.3 | 2.04417 | 434.3 | 9.99998 | 0,0 | 0.00002 |
| .41 | .04849 | | .04851 | | .99998 | | .00002 |
| .42 | .05284 | | .05285 | | .99998 | | .00002 |
| .43 | .05718 | | .05720 | | .99998 | | .00002 |
| .44 | .06152 | | .06154 | | .99998 | | .00002 |
| 5.45 | 2.06587 | 434.3 | 2.06588 | 434.3 | 9.99998 | 0,0 | 0.00002 |
| .46 | .07021 | | .07023 | | .99998 | | .00002 |
| .47 | .07455 | | .07457 | | .99998 | | .00002 |
| .48 | .07890 | | .07891 | | .99998 | | .00002 |
| .49 | .08324 | | .08325 | | .99999 | | .00001 |
| 5.50 | 2.08758 | 434.3 | 2.08760 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

Logarithms of Hyperbolic Functions.

| u | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | log tanh u | $\omega F_0'$ | log coth u |
|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| 5.50 | 2.08758 | 434.3 | 2.08760 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .51 | .09193 | | .09194 | | .99999 | | .00001 |
| .52 | .09627 | | .09628 | | .99999 | | .00001 |
| .53 | .10061 | | .10063 | | .99999 | | .00001 |
| .54 | .10495 | | .10497 | | .99999 | | .00001 |
| 5.55 | 2.10930 | 434.3 | 2.10931 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .56 | .11364 | | .11365 | | .99999 | | .00001 |
| .57 | .11798 | | .11800 | | .99999 | | .00001 |
| .58 | .12233 | | .12234 | | .99999 | | .00001 |
| .59 | .12667 | | .12668 | | .99999 | | .00001 |
| 5.60 | 2.13101 | 434.3 | 2.13103 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .61 | .13536 | | .13537 | | .99999 | | .00001 |
| .62 | .13970 | | .13971 | | .99999 | | .00001 |
| .63 | .14404 | | .14405 | | .99999 | | .00001 |
| .64 | .14839 | | .14840 | | .99999 | | .00001 |
| 5.65 | 2.15273 | 434.3 | 2.15274 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .66 | .15707 | | .15708 | | .99999 | | .00001 |
| .67 | .16141 | | .16142 | | .99999 | | .00001 |
| .68 | .16576 | | .16577 | | .99999 | | .00001 |
| .69 | .17010 | | .17011 | | .99999 | | .00001 |
| 5.70 | 2.17444 | 434.3 | 2.17445 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .71 | .17879 | | .17880 | | .99999 | | .00001 |
| .72 | .18313 | | .18314 | | .99999 | | .00001 |
| .73 | .18747 | | .18748 | | .99999 | | .00001 |
| .74 | .19182 | | .19182 | | .99999 | | .00001 |
| 5.75 | 2.19616 | 434.3 | 2.19617 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .76 | .20050 | | .20051 | | .99999 | | .00001 |
| .77 | .20484 | | .20485 | | .99999 | | .00001 |
| .78 | .20919 | | .20920 | | .99999 | | .00001 |
| .79 | .21353 | | .21354 | | .99999 | | .00001 |
| 5.80 | 2.21787 | 434.3 | 2.21788 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .81 | .22222 | | .22222 | | .99999 | | .00001 |
| .82 | .22656 | | .22657 | | .99999 | | .00001 |
| .83 | .23090 | | .23091 | | .99999 | | .00001 |
| .84 | .23525 | | .23525 | | .99999 | | .00001 |
| 5.85 | 2.23959 | 434.3 | 2.23960 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .86 | .24393 | | .24394 | | .99999 | | .00001 |
| .87 | .24828 | | .24828 | | .99999 | | .00001 |
| .88 | .25262 | | .25262 | | .99999 | | .00001 |
| .89 | .25696 | | .25697 | | .99999 | | .00001 |
| 5.90 | 2.26130 | 434.3 | 2.26131 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .91 | .26565 | | .26565 | | .99999 | | .00001 |
| .92 | .26999 | | .27000 | | .99999 | | .00001 |
| .93 | .27433 | | .27434 | | .99999 | | .00001 |
| .94 | .27868 | | .27868 | | .99999 | | .00001 |
| 5.95 | 2.28302 | 434.3 | 2.28303 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| .96 | .28736 | | .28737 | | .99999 | | .00001 |
| .97 | .29171 | | .29171 | | .99999 | | .00001 |
| .98 | .29605 | | .29605 | | .99999 | | .00001 |
| .99 | .30039 | | .30040 | | .99999 | | .00001 |
| 6.00 | 2.30473 | 434.3 | 2.30474 | 434.3 | 9.99999 | 0,0 | 0.00001 |
| u | log tan gd u | $\omega F_0'$ | log sec gd u | $\omega F_0'$ | log sin gd u | $\omega F_0'$ | log csc gd u |

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the sixty-third is the fact that the
the sixty-fourth is the fact that the
the sixty-fifth is the fact that the
the sixty-sixth is the fact that the
the sixty-seventh is the fact that the
the sixty-eighth is the fact that the
the sixty-ninth is the fact that the
the seventieth is the fact that the
the seventy-first is the fact that the
the seventy-second is the fact that the
the seventy-third is the fact that the
the seventy-fourth is the fact that the
the seventy-fifth is the fact that the
the seventy-sixth is the fact that the
the seventy-seventh is the fact that the
the seventy-eighth is the fact that the
the seventy-ninth is the fact that the
the eightieth is the fact that the
the eighty-first is the fact that the
the eighty-second is the fact that the
the eighty-third is the fact that the
the eighty-fourth is the fact that the
the eighty-fifth is the fact that the
the eighty-sixth is the fact that the
the eighty-seventh is the fact that the
the eighty-eighth is the fact that the
the eighty-ninth is the fact that the
the ninetieth is the fact that the
the ninety-first is the fact that the
the ninety-second is the fact that the
the ninety-third is the fact that the
the ninety-fourth is the fact that the
the ninety-fifth is the fact that the
the ninety-sixth is the fact that the
the ninety-seventh is the fact that the
the ninety-eighth is the fact that the
the ninety-ninth is the fact that the
the hundredth is the fact that the

TABLE II

NATURAL HYPERBOLIC FUNCTIONS

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0000 | 0.00000 | 10,0 | 1.00000 | 0,0 | 0.00000 | 10,0 | ∞ | ∞ |
| .0001 | .00010 | | .00000 | | .00010 | | 10000.00 | 100000,0 |
| .0002 | .00020 | | .00000 | | .00020 | | 5000.00 | 250000,0 |
| .0003 | .00030 | | .00000 | | .00030 | | 3333.33 | 111111,1 |
| .0004 | .00040 | | .00000 | | .00040 | | 2500.00 | 62500,0 |
| 0.0005 | 0.00050 | 10,0 | 1.00000 | 0,0 | 0.00050 | 10,0 | 2000.00 | 40000,0 |
| .0006 | .00060 | | .00000 | | .00060 | | 1666.67 | 27777,8 |
| .0007 | .00070 | | .00000 | | .00070 | | 1428.57 | 20408,2 |
| .0008 | .00080 | | .00000 | | .00080 | | 1250.00 | 15625,0 |
| .0009 | .00090 | | .00000 | | .00090 | | 1111.11 | 12345,7 |
| 0.0010 | 0.00100 | 10,0 | 1.00000 | 0,0 | 0.00100 | 10,0 | 1000.00 | 10000,0 |
| .0011 | .00110 | | .00000 | | .00110 | | 909.09 | 8264,5 |
| .0012 | .00120 | | .00000 | | .00120 | | 833.33 | 6944,4 |
| .0013 | .00130 | | .00000 | | .00130 | | 769.23 | 5917,2 |
| .0014 | .00140 | | .00000 | | .00140 | | 714.29 | 5102,0 |
| 0.0015 | 0.00150 | 10,0 | 1.00000 | 0,0 | 0.00150 | 10,0 | 666.67 | 4444,4 |
| .0016 | .00160 | | .00000 | | .00160 | | 625.00 | 3906,2 |
| .0017 | .00170 | | .00000 | | .00170 | | 588.24 | 3400,2 |
| .0018 | .00180 | | .00000 | | .00180 | | 555.56 | 3086,4 |
| .0019 | .00190 | | .00000 | | .00190 | | 526.32 | 2770,1 |
| 0.0020 | 0.00200 | 10,0 | 1.00000 | 0,0 | 0.00200 | 10,0 | 500.00 | 2500,0 |
| .0021 | .00210 | | .00000 | | .00210 | | 476.19 | 2267,6 |
| .0022 | .00220 | | .00000 | | .00220 | | 454.55 | 2066,1 |
| .0023 | .00230 | | .00000 | | .00230 | | 434.78 | 1890,4 |
| .0024 | .00240 | | .00000 | | .00240 | | 416.67 | 1736,1 |
| 0.0025 | 0.00250 | 10,0 | 1.00000 | 0,0 | 0.00250 | 10,0 | 400.00 | 1600,0 |
| .0026 | .00260 | | .00000 | | .00260 | | 384.62 | 1479,3 |
| .0027 | .00270 | | .00000 | | .00270 | | 370.37 | 1371,7 |
| .0028 | .00280 | | .00000 | | .00280 | | 357.14 | 1275,5 |
| .0029 | .00290 | | .00000 | | .00290 | | 344.83 | 1189,1 |
| 0.0030 | 0.00300 | 10,0 | 1.00000 | 0,0 | 0.00300 | 10,0 | 333.33 | 1111,1 |
| .0031 | .00310 | | .00000 | | .00310 | | 322.58 | 1040,6 |
| .0032 | .00320 | | .00000 | | .00320 | | 312.50 | 976,6 |
| .0033 | .00330 | | .00000 | | .00330 | | 303.03 | 918,3 |
| .0034 | .00340 | | .00000 | | .00340 | | 294.12 | 865,1 |
| 0.0035 | 0.00350 | 10,0 | 1.00001 | 0,0 | 0.00350 | 10,0 | 285.72 | 816,3 |
| .0036 | .00360 | | .00001 | | .00360 | | 277.78 | 771,6 |
| .0037 | .00370 | | .00001 | | .00370 | | 270.27 | 730,5 |
| .0038 | .00380 | | .00001 | | .00380 | | 263.16 | 692,5 |
| .0039 | .00390 | | .00001 | | .00390 | | 256.41 | 657,5 |
| 0.0040 | 0.00400 | 10,0 | 1.00001 | 0,0 | 0.00400 | 10,0 | 250.00 | 625,0 |
| .0041 | .00410 | | .00001 | | .00410 | | 243.90 | 594,9 |
| .0042 | .00420 | | .00001 | | .00420 | | 238.10 | 566,9 |
| .0043 | .00430 | | .00001 | | .00430 | | 232.56 | 540,8 |
| .0044 | .00440 | | .00001 | | .00440 | | 227.27 | 516,5 |
| 0.0045 | 0.00450 | 10,0 | 1.00001 | 0,0 | 0.00450 | 10,0 | 222.22 | 493,8 |
| .0046 | .00460 | | .00001 | | .00460 | | 217.39 | 472,6 |
| .0047 | .00470 | | .00001 | | .00470 | | 212.77 | 452,7 |
| .0048 | .00480 | | .00001 | | .00480 | | 208.33 | 434,0 |
| .0049 | .00490 | | .00001 | | .00490 | | 204.08 | 416,5 |
| 0.0050 | 0.00500 | 10,0 | 1.00001 | 0,1 | 0.00500 | 10,0 | 200.00 | 400,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0050 | 0.00500 | 10,0 | 1.00001 | 0,1 | 0.00500 | 10,0 | 200.00 | 400,0 |
| .0051 | .00510 | | .00001 | | .00510 | | 196.08 | 384,5 |
| .0052 | .00520 | | .00001 | | .00520 | | 192.31 | 369,8 |
| .0053 | .00530 | | .00001 | | .00530 | | 188.68 | 356,0 |
| .0054 | .00540 | | .00001 | | .00540 | | 185.19 | 342,9 |
| 0.0055 | 0.00550 | 10,0 | 1.00002 | 0,1 | 0.00550 | 10,0 | 181.82 | 330,6 |
| .0056 | .00560 | | .00002 | | .00560 | | 178.57 | 318,9 |
| .0057 | .00570 | | .00002 | | .00570 | | 175.44 | 307,8 |
| .0058 | .00580 | | .00002 | | .00580 | | 172.42 | 297,3 |
| .0059 | .00590 | | .00002 | | .00590 | | 169.49 | 287,3 |
| 0.0060 | 0.00600 | 10,0 | 1.00002 | 0,1 | 0.00600 | 10,0 | 166.67 | 277,8 |
| .0061 | .00610 | | .00002 | | .00610 | | 163.94 | 268,7 |
| .0062 | .00620 | | .00002 | | .00620 | | 161.29 | 260,1 |
| .0063 | .00630 | | .00002 | | .00630 | | 158.73 | 251,9 |
| .0064 | .00640 | | .00002 | | .00640 | | 156.25 | 244,1 |
| 0.0065 | 0.00650 | 10,0 | 1.00002 | 0,1 | 0.00650 | 10,0 | 153.85 | 236,7 |
| .0066 | .00660 | | .00002 | | .00660 | | 151.52 | 229,6 |
| .0067 | .00670 | | .00002 | | .00670 | | 149.26 | 222,8 |
| .0068 | .00680 | | .00002 | | .00680 | | 147.06 | 216,3 |
| .0069 | .00690 | | .00002 | | .00690 | | 144.93 | 210,0 |
| 0.0070 | 0.00700 | 10,0 | 1.00002 | 0,1 | 0.00700 | 10,0 | 142.86 | 204,1 |
| .0071 | .00710 | | .00003 | | .00710 | | 140.85 | 198,4 |
| .0072 | .00720 | | .00003 | | .00720 | | 138.89 | 192,9 |
| .0073 | .00730 | | .00003 | | .00730 | | 136.99 | 187,6 |
| .0074 | .00740 | | .00003 | | .00740 | | 135.14 | 182,6 |
| 0.0075 | 0.00750 | 10,0 | 1.00003 | 0,1 | 0.00750 | 10,0 | 133.34 | 177,8 |
| .0076 | .00760 | | .00003 | | .00760 | | 131.58 | 173,1 |
| .0077 | .00770 | | .00003 | | .00770 | | 129.87 | 168,7 |
| .0078 | .00780 | | .00003 | | .00780 | | 128.21 | 164,4 |
| .0079 | .00790 | | .00003 | | .00790 | | 126.58 | 160,2 |
| 0.0080 | 0.00800 | 10,0 | 1.00003 | 0,1 | 0.00800 | 10,0 | 125.00 | 156,2 |
| .0081 | .00810 | | .00003 | | .00810 | | 123.46 | 152,4 |
| .0082 | .00820 | | .00003 | | .00820 | | 121.95 | 148,7 |
| .0083 | .00830 | | .00003 | | .00830 | | 120.48 | 145,2 |
| .0084 | .00840 | | .00004 | | .00840 | | 119.05 | 141,7 |
| 0.0085 | 0.00850 | 10,0 | 1.00004 | 0,1 | 0.00850 | 10,0 | 117.65 | 138,4 |
| .0086 | .00860 | | .00004 | | .00860 | | 116.28 | 135,2 |
| .0087 | .00870 | | .00004 | | .00870 | | 114.95 | 132,1 |
| .0088 | .00880 | | .00004 | | .00880 | | 113.64 | 129,1 |
| .0089 | .00890 | | .00004 | | .00890 | | 112.36 | 126,2 |
| 0.0090 | 0.00900 | 10,0 | 1.00004 | 0,1 | 0.00900 | 10,0 | 111.11 | 123,5 |
| .0091 | .00910 | | .00004 | | .00910 | | 109.89 | 120,8 |
| .0092 | .00920 | | .00004 | | .00920 | | 108.70 | 118,1 |
| .0093 | .00930 | | .00004 | | .00930 | | 107.53 | 115,6 |
| .0094 | .00940 | | .00004 | | .00940 | | 106.39 | 113,2 |
| 0.0095 | 0.00950 | 10,0 | 1.00005 | 0,1 | 0.00950 | 10,0 | 105.27 | 110,8 |
| .0096 | .00960 | | .00005 | | .00960 | | 104.17 | 108,5 |
| .0097 | .00970 | | .00005 | | .00970 | | 103.10 | 106,3 |
| .0098 | .00980 | | .00005 | | .00980 | | 102.04 | 104,1 |
| .0099 | .00990 | | .00005 | | .00990 | | 101.01 | 102,0 |
| 0.0100 | 0.01000 | 10,0 | 1.00005 | 0,1 | 0.01000 | 10,0 | 100.00 | 100,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0100 | 0.01000 | 10,0 | 1.00005 | 0,1 | 0.01000 | 10,0 | 100.003 | 1000,0 |
| .0101 | .01010 | | .00005 | | .01010 | | 99.013 | 980,3 |
| .0102 | .01020 | | .00005 | | .01020 | | 98.043 | 961,1 |
| .0103 | .01030 | | .00005 | | .01030 | | 97.091 | 942,6 |
| .0104 | .01040 | | .00005 | | .01040 | | 96.157 | 924,5 |
| 0.0105 | 0.01050 | 10,0 | 1.00006 | 0,1 | 0.01050 | 10,0 | 95.242 | 907,0 |
| .0106 | .01060 | | .00006 | | .01060 | | 94.343 | 890,0 |
| .0107 | .01070 | | .00006 | | .01070 | | 93.462 | 873,4 |
| .0108 | .01080 | | .00006 | | .01080 | | 92.596 | 857,3 |
| .0109 | .01090 | | .00006 | | .01090 | | 91.747 | 841,6 |
| 0.0110 | 0.01100 | 10,0 | 1.00006 | 0,1 | 0.01100 | 10,0 | 90.913 | 826,4 |
| .0111 | .01110 | | .00006 | | .01110 | | 90.094 | 811,6 |
| .0112 | .01120 | | .00006 | | .01120 | | 89.289 | 797,2 |
| .0113 | .01130 | | .00006 | | .01130 | | 88.499 | 783,1 |
| .0114 | .01140 | | .00006 | | .01140 | | 87.723 | 769,4 |
| 0.0115 | 0.01150 | 10,0 | 1.00007 | 0,1 | 0.01150 | 10,0 | 86.960 | 756,1 |
| .0116 | .01160 | | .00007 | | .01160 | | 86.211 | 743,1 |
| .0117 | .01170 | | .00007 | | .01170 | | 85.474 | 730,5 |
| .0118 | .01180 | | .00007 | | .01180 | | 84.750 | 718,2 |
| .0119 | .01190 | | .00007 | | .01190 | | 84.038 | 706,1 |
| 0.0120 | 0.01200 | 10,0 | 1.00007 | 0,1 | 0.01200 | 10,0 | 83.337 | 694,4 |
| .0121 | .01210 | | .00007 | | .01210 | | 82.649 | 683,0 |
| .0122 | .01220 | | .00007 | | .01220 | | 81.971 | 671,8 |
| .0123 | .01230 | | .00008 | | .01230 | | 81.305 | 660,9 |
| .0124 | .01240 | | .00008 | | .01240 | | 80.649 | 650,3 |
| 0.0125 | 0.01250 | 10,0 | 1.00008 | 0,1 | 0.01250 | 10,0 | 80.004 | 640,0 |
| .0126 | .01260 | | .00008 | | .01260 | | 79.369 | 629,8 |
| .0127 | .01270 | | .00008 | | .01270 | | 78.744 | 620,0 |
| .0128 | .01280 | | .00008 | | .01280 | | 78.129 | 610,3 |
| .0129 | .01290 | | .00008 | | .01290 | | 77.524 | 600,9 |
| 0.0130 | 0.01300 | 10,0 | 1.00008 | 0,1 | 0.01300 | 10,0 | 76.927 | 591,7 |
| .0131 | .01310 | | .00009 | | .01310 | | 76.340 | 582,7 |
| .0132 | .01320 | | .00009 | | .01320 | | 75.762 | 573,9 |
| .0133 | .01330 | | .00009 | | .01330 | | 75.192 | 565,3 |
| .0134 | .01340 | | .00009 | | .01340 | | 74.631 | 556,9 |
| 0.0135 | 0.01350 | 10,0 | 1.00009 | 0,1 | 0.01350 | 10,0 | 74.079 | 548,7 |
| .0136 | .01360 | | .00009 | | .01360 | | 73.534 | 540,6 |
| .0137 | .01370 | | .00009 | | .01370 | | 72.997 | 532,8 |
| .0138 | .01380 | | .00010 | | .01380 | | 72.468 | 525,1 |
| .0139 | .01390 | | .00010 | | .01390 | | 71.947 | 517,5 |
| 0.0140 | 0.01400 | 10,0 | 1.00010 | 0,1 | 0.01400 | 10,0 | 71.433 | 510,2 |
| .0141 | .01410 | | .00010 | | .01410 | | 70.927 | 503,0 |
| .0142 | .01420 | | .00010 | | .01420 | | 70.427 | 495,9 |
| .0143 | .01430 | | .00010 | | .01430 | | 69.935 | 489,0 |
| .0144 | .01440 | | .00010 | | .01440 | | 69.449 | 482,2 |
| 0.0145 | 0.01450 | 10,0 | 1.00011 | 0,1 | 0.01450 | 10,0 | 68.970 | 475,6 |
| .0146 | .01460 | | .00011 | | .01460 | | 68.498 | 469,1 |
| .0147 | .01470 | | .00011 | | .01470 | | 68.032 | 462,7 |
| .0148 | .01480 | | .00011 | | .01480 | | 67.573 | 456,5 |
| .0149 | .01490 | | .00011 | | .01490 | | 67.119 | 450,4 |
| 0.0150 | 0.01500 | 10,0 | 1.00011 | 0,2 | 0.01500 | 10,0 | 66.672 | 444,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0150 | 0.01500 | 10,0 | 1.00011 | 0,2 | 0.01500 | 10,0 | 66.672 | 444,4 |
| .0151 | .01510 | | .00011 | | .01510 | | 66.230 | 438,5 |
| .0152 | .01520 | | .00012 | | .01520 | | 65.795 | 432,8 |
| .0153 | .01530 | | .00012 | | .01530 | | 65.365 | 427,2 |
| .0154 | .01540 | | .00012 | | .01540 | | 64.940 | 421,6 |
| 0.0155 | 0.01550 | 10,0 | 1.00012 | 0,2 | 0.01550 | 10,0 | 64.521 | 416,2 |
| .0156 | .01560 | | .00012 | | .01560 | | 64.108 | 410,9 |
| .0157 | .01570 | | .00012 | | .01570 | | 63.699 | 405,7 |
| .0158 | .01580 | | .00012 | | .01580 | | 63.296 | 400,5 |
| .0159 | .01590 | | .00013 | | .01590 | | 62.898 | 395,5 |
| 0.0160 | 0.01600 | 10,0 | 1.00013 | 0,2 | 0.01600 | 10,0 | 62.505 | 390,6 |
| .0161 | .01610 | | .00013 | | .01610 | | 62.117 | 385,8 |
| .0162 | .01620 | | .00013 | | .01620 | | 61.734 | 381,0 |
| .0163 | .01630 | | .00013 | | .01630 | | 61.355 | 376,3 |
| .0164 | .01640 | | .00013 | | .01640 | | 60.981 | 371,8 |
| 0.0165 | 0.01650 | 10,0 | 1.00014 | 0,2 | 0.01650 | 10,0 | 60.612 | 367,3 |
| .0166 | .01660 | | .00014 | | .01660 | | 60.247 | 362,9 |
| .0167 | .01670 | | .00014 | | .01670 | | 59.886 | 358,5 |
| .0168 | .01680 | | .00014 | | .01680 | | 59.529 | 354,3 |
| .0169 | .01690 | | .00014 | | .01690 | | 59.177 | 350,1 |
| 0.0170 | 0.01700 | 10,0 | 1.00014 | 0,2 | 0.01700 | 10,0 | 58.829 | 346,0 |
| .0171 | .01710 | | .00015 | | .01710 | | 58.485 | 342,0 |
| .0172 | .01720 | | .00015 | | .01720 | | 58.145 | 338,0 |
| .0173 | .01730 | | .00015 | | .01730 | | 57.809 | 334,1 |
| .0174 | .01740 | | .00015 | | .01740 | | 57.477 | 330,3 |
| 0.0175 | 0.01750 | 10,0 | 1.00015 | 0,2 | 0.01750 | 10,0 | 57.149 | 326,5 |
| .0176 | .01760 | | .00015 | | .01760 | | 56.824 | 322,8 |
| .0177 | .01770 | | .00016 | | .01770 | | 56.503 | 319,2 |
| .0178 | .01780 | | .00016 | | .01780 | | 56.186 | 315,6 |
| .0179 | .01790 | | .00016 | | .01790 | | 55.872 | 312,1 |
| 0.0180 | 0.01800 | 10,0 | 1.00016 | 0,2 | 0.01800 | 10,0 | 55.562 | 308,6 |
| .0181 | .01810 | | .00016 | | .01810 | | 55.255 | 305,2 |
| .0182 | .01820 | | .00017 | | .01820 | | 54.951 | 301,9 |
| .0183 | .01830 | | .00017 | | .01830 | | 54.651 | 298,6 |
| .0184 | .01840 | | .00017 | | .01840 | | 54.354 | 295,3 |
| 0.0185 | 0.01850 | 10,0 | 1.00017 | 0,2 | 0.01850 | 10,0 | 54.060 | 292,2 |
| .0186 | .01860 | | .00017 | | .01860 | | 53.770 | 289,0 |
| .0187 | .01870 | | .00017 | | .01870 | | 53.482 | 285,9 |
| .0188 | .01880 | | .00018 | | .01880 | | 53.198 | 282,9 |
| .0189 | .01890 | | .00018 | | .01890 | | 52.916 | 279,9 |
| 0.0190 | 0.01900 | 10,0 | 1.00018 | 0,2 | 0.01900 | 10,0 | 52.638 | 277,0 |
| .0191 | .01910 | | .00018 | | .01910 | | 52.362 | 274,1 |
| .0192 | .01920 | | .00018 | | .01920 | | 52.090 | 271,2 |
| .0193 | .01930 | | .00019 | | .01930 | | 51.820 | 268,4 |
| .0194 | .01940 | | .00019 | | .01940 | | 51.553 | 265,7 |
| 0.0195 | 0.01950 | 10,0 | 1.00019 | 0,2 | 0.01950 | 10,0 | 51.289 | 263,0 |
| .0196 | .01960 | | .00019 | | .01960 | | 51.027 | 260,3 |
| .0197 | .01970 | | .00019 | | .01970 | | 50.768 | 257,6 |
| .0198 | .01980 | | .00020 | | .01980 | | 50.512 | 255,0 |
| .0199 | .01990 | | .00020 | | .01990 | | 50.258 | 252,5 |
| 0.0200 | 0.02000 | 10,0 | 1.00020 | 0,2 | 0.02000 | 10,0 | 50.007 | 250,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0200 | 0.02000 | 10,0 | 1.00020 | 0,2 | 0.02000 | 10,0 | 50.007 | 250,0 |
| .0201 | .02010 | | .00020 | | .02010 | | 49.758 | 247,5 |
| .0202 | .02020 | | .00020 | | .02020 | | 49.512 | 245,0 |
| .0203 | .02030 | | .00021 | | .02030 | | 49.268 | 242,6 |
| .0204 | .02040 | | .00021 | | .02040 | | 49.026 | 240,3 |
| 0.0205 | 0.02050 | 10,0 | 1.00021 | 0,2 | 0.02050 | 10,0 | 48.787 | 237,9 |
| .0206 | .02060 | | .00021 | | .02060 | | 48.551 | 235,6 |
| .0207 | .02070 | | .00021 | | .02070 | | 48.316 | 233,3 |
| .0208 | .02080 | | .00022 | | .02080 | | 48.084 | 231,1 |
| .0209 | .02090 | | .00022 | | .02090 | | 47.854 | 228,9 |
| 0.0210 | 0.02100 | 10,0 | 1.00022 | 0,2 | 0.02100 | 10,0 | 47.626 | 226,7 |
| .0211 | .02110 | | .00022 | | .02110 | | 47.400 | 224,6 |
| .0212 | .02120 | | .00022 | | .02120 | | 47.177 | 222,5 |
| .0213 | .02130 | | .00023 | | .02130 | | 46.955 | 220,4 |
| .0214 | .02140 | | .00023 | | .02140 | | 46.736 | 218,3 |
| 0.0215 | 0.02150 | 10,0 | 1.00023 | 0,2 | 0.02150 | 10,0 | 46.519 | 216,3 |
| .0216 | .02160 | | .00023 | | .02160 | | 46.303 | 214,3 |
| .0217 | .02170 | | .00024 | | .02170 | | 46.090 | 212,3 |
| .0218 | .02180 | | .00024 | | .02180 | | 45.879 | 210,4 |
| .0219 | .02190 | | .00024 | | .02190 | | 45.669 | 208,5 |
| 0.0220 | 0.02200 | 10,0 | 1.00024 | 0,2 | 0.02200 | 10,0 | 45.462 | 206,6 |
| .0221 | .02210 | | .00024 | | .02210 | | 45.256 | 204,7 |
| .0222 | .02220 | | .00025 | | .02220 | | 45.052 | 202,9 |
| .0223 | .02230 | | .00025 | | .02230 | | 44.850 | 201,1 |
| .0224 | .02240 | | .00025 | | .02240 | | 44.650 | 199,3 |
| 0.0225 | 0.02250 | 10,0 | 1.00025 | 0,2 | 0.02250 | 10,0 | 44.452 | 197,5 |
| .0226 | .02260 | | .00026 | | .02260 | | 44.255 | 195,7 |
| .0227 | .02270 | | .00026 | | .02270 | | 44.060 | 194,0 |
| .0228 | .02280 | | .00026 | | .02280 | | 43.867 | 192,3 |
| .0229 | .02290 | | .00026 | | .02290 | | 43.676 | 190,7 |
| 0.0230 | 0.02300 | 10,0 | 1.00026 | 0,2 | 0.02300 | 10,0 | 43.486 | 189,0 |
| .0231 | .02310 | | .00027 | | .02310 | | 43.298 | 187,4 |
| .0232 | .02320 | | .00027 | | .02320 | | 43.111 | 185,8 |
| .0233 | .02330 | | .00027 | | .02330 | | 42.926 | 184,2 |
| .0234 | .02340 | | .00027 | | .02340 | | 42.743 | 182,6 |
| 0.0235 | 0.02350 | 10,0 | 1.00028 | 0,2 | 0.02350 | 10,0 | 42.561 | 181,1 |
| .0236 | .02360 | | .00028 | | .02360 | | 42.381 | 179,5 |
| .0237 | .02370 | | .00028 | | .02370 | | 42.202 | 178,0 |
| .0238 | .02380 | | .00028 | | .02380 | | 42.025 | 176,5 |
| .0239 | .02390 | | .00029 | | .02390 | | 41.849 | 175,0 |
| 0.0240 | 0.02400 | 10,0 | 1.00029 | 0,2 | 0.02400 | 10,0 | 41.675 | 173,6 |
| .0241 | .02410 | | .00029 | | .02410 | | 41.502 | 172,1 |
| .0242 | .02420 | | .00029 | | .02420 | | 41.330 | 170,7 |
| .0243 | .02430 | | .00030 | | .02430 | | 41.160 | 169,3 |
| .0244 | .02440 | | .00030 | | .02440 | | 40.992 | 167,9 |
| 0.0245 | 0.02450 | 10,0 | 1.00030 | 0,2 | 0.02450 | 10,0 | 40.824 | 166,6 |
| .0246 | .02460 | | .00030 | | .02460 | | 40.659 | 165,2 |
| .0247 | .02470 | | .00031 | | .02469 | | 40.494 | 163,9 |
| .0248 | .02480 | | .00031 | | .02479 | | 40.331 | 162,6 |
| .0249 | .02490 | | .00031 | | .02489 | | 40.169 | 161,3 |
| 0.0250 | 0.02500 | 10,0 | 1.00031 | 0,3 | 0.02499 | 10,0 | 40.008 | 160,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0250 | 0.02500 | 10,0 | 1.00031 | 0,3 | 0.02499 | 10,0 | 40.008 | 160,0 |
| .0251 | .02510 | | .00032 | | .02509 | | 39.849 | 158,7 |
| .0252 | .02520 | | .00032 | | .02519 | | 39.691 | 157,4 |
| .0253 | .02530 | | .00032 | | .02529 | | 39.534 | 156,2 |
| .0254 | .02540 | | .00032 | | .02539 | | 39.379 | 155,0 |
| 0.0255 | 0.02550 | 10,0 | 1.00033 | 0,3 | 0.02549 | 10,0 | 39.224 | 153,8 |
| .0256 | .02560 | | .00033 | | .02559 | | 39.071 | 152,6 |
| .0257 | .02570 | | .00033 | | .02569 | | 38.919 | 151,4 |
| .0258 | .02580 | | .00033 | | .02579 | | 38.768 | 150,2 |
| .0259 | .02590 | | .00034 | | .02589 | | 38.619 | 149,0 |
| 0.0260 | 0.02600 | 10,0 | 1.00034 | 0,3 | 0.02599 | 10,0 | 38.470 | 147,9 |
| .0261 | .02610 | | .00034 | | .02609 | | 38.323 | 146,8 |
| .0262 | .02620 | | .00034 | | .02619 | | 38.177 | 145,7 |
| .0263 | .02630 | | .00035 | | .02629 | | 38.032 | 144,5 |
| .0264 | .02640 | | .00035 | | .02639 | | 37.888 | 143,4 |
| 0.0265 | 0.02650 | 10,0 | 1.00035 | 0,3 | 0.02649 | 10,0 | 37.745 | 142,4 |
| .0266 | .02660 | | .00035 | | .02659 | | 37.603 | 141,3 |
| .0267 | .02670 | | .00036 | | .02669 | | 37.462 | 140,2 |
| .0268 | .02680 | | .00036 | | .02679 | | 37.322 | 139,2 |
| .0269 | .02690 | | .00036 | | .02689 | | 37.184 | 138,2 |
| 0.0270 | 0.02700 | 10,0 | 1.00036 | 0,3 | 0.02699 | 10,0 | 37.046 | 137,1 |
| .0271 | .02710 | | .00037 | | .02709 | | 36.909 | 136,1 |
| .0272 | .02720 | | .00037 | | .02719 | | 36.774 | 135,1 |
| .0273 | .02730 | | .00037 | | .02729 | | 36.639 | 134,1 |
| .0274 | .02740 | | .00038 | | .02739 | | 36.505 | 133,2 |
| 0.0275 | 0.02750 | 10,0 | 1.00038 | 0,3 | 0.02749 | 10,0 | 36.373 | 132,2 |
| .0276 | .02760 | | .00038 | | .02759 | | 36.241 | 131,2 |
| .0277 | .02770 | | .00038 | | .02769 | | 36.110 | 130,3 |
| .0278 | .02780 | | .00039 | | .02779 | | 35.980 | 129,4 |
| .0279 | .02790 | | .00039 | | .02789 | | 35.852 | 128,4 |
| 0.0280 | 0.02800 | 10,0 | 1.00039 | 0,3 | 0.02799 | 10,0 | 35.724 | 127,5 |
| .0281 | .02810 | | .00039 | | .02809 | | 35.597 | 126,6 |
| .0282 | .02820 | | .00040 | | .02819 | | 35.470 | 125,7 |
| .0283 | .02830 | | .00040 | | .02829 | | 35.345 | 124,8 |
| .0284 | .02840 | | .00040 | | .02839 | | 35.221 | 124,0 |
| 0.0285 | 0.02850 | 10,0 | 1.00041 | 0,3 | 0.02849 | 10,0 | 35.097 | 123,2 |
| .0286 | .02860 | | .00041 | | .02859 | | 34.975 | 122,2 |
| .0287 | .02870 | | .00041 | | .02869 | | 34.853 | 121,4 |
| .0288 | .02880 | | .00041 | | .02879 | | 34.732 | 120,5 |
| .0289 | .02890 | | .00042 | | .02889 | | 34.612 | 119,7 |
| 0.0290 | 0.02900 | 10,0 | 1.00042 | 0,3 | 0.02899 | 10,0 | 34.492 | 118,9 |
| .0291 | .02910 | | .00042 | | .02909 | | 34.374 | 118,1 |
| .0292 | .02920 | | .00043 | | .02919 | | 34.256 | 117,2 |
| .0293 | .02930 | | .00043 | | .02929 | | 34.139 | 116,4 |
| .0294 | .02940 | | .00043 | | .02939 | | 34.023 | 115,7 |
| 0.0295 | 0.02950 | 10,0 | 1.00044 | 0,3 | 0.02949 | 10,0 | 33.908 | 114,9 |
| .0296 | .02960 | | .00044 | | .02959 | | 33.794 | 114,1 |
| .0297 | .02970 | | .00044 | | .02969 | | 33.680 | 113,3 |
| .0298 | .02980 | | .00044 | | .02979 | | 33.567 | 112,6 |
| .0299 | .02990 | | .00045 | | .02989 | | 33.455 | 111,8 |
| 0.0300 | 0.03000 | 10,0 | 1.00045 | 0,3 | 0.02999 | 10,0 | 33.343 | 111,1 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0300 | 0.03000 | 10,0 | 1.00045 | 0,3 | 0.02999 | 10,0 | 33.343 | 111,1 |
| .0301 | .03010 | | .00045 | | .03009 | | 33.233 | 110,3 |
| .0302 | .03020 | | .00046 | | .03019 | | 33.123 | 109,6 |
| .0303 | .03030 | | .00046 | | .03029 | | 33.013 | 108,9 |
| .0304 | .03040 | | .00046 | | .03039 | | 32.905 | 108,2 |
| 0.0305 | 0.03050 | 10,0 | 1.00047 | 0,3 | 0.03049 | 10,0 | 32.797 | 107,5 |
| .0306 | .03060 | | .00047 | | .03059 | | 32.690 | 106,8 |
| .0307 | .03070 | | .00047 | | .03069 | | 32.584 | 106,1 |
| .0308 | .03080 | | .00047 | | .03079 | | 32.478 | 105,4 |
| .0309 | .03090 | | .00048 | | .03089 | | 32.373 | 104,7 |
| 0.0310 | 0.03100 | 10,0 | 1.00048 | 0,3 | 0.03099 | 10,0 | 32.268 | 104,0 |
| .0311 | .03111 | | .00048 | | .03109 | | 32.165 | 103,4 |
| .0312 | .03121 | | .00049 | | .03119 | | 32.062 | 102,7 |
| .0313 | .03131 | | .00049 | | .03129 | | 31.959 | 102,0 |
| .0314 | .03141 | | .00049 | | .03139 | | 31.858 | 101,4 |
| 0.0315 | 0.03151 | 10,0 | 1.00050 | 0,3 | 0.03149 | 10,0 | 31.757 | 100,7 |
| .0316 | .03161 | | .00050 | | .03159 | | 31.656 | 100,1 |
| .0317 | .03171 | | .00050 | | .03169 | | 31.556 | 99,5 |
| .0318 | .03181 | | .00051 | | .03179 | | 31.457 | 98,9 |
| .0319 | .03191 | | .00051 | | .03189 | | 31.359 | 98,2 |
| 0.0320 | 0.03201 | 10,0 | 1.00051 | 0,3 | 0.03199 | 10,0 | 31.261 | 97,6 |
| .0321 | .03211 | | .00052 | | .03209 | | 31.163 | 97,0 |
| .0322 | .03221 | | .00052 | | .03219 | | 31.067 | 96,4 |
| .0323 | .03231 | | .00052 | | .03229 | | 30.971 | 95,8 |
| .0324 | .03241 | | .00052 | | .03239 | | 30.875 | 95,2 |
| 0.0325 | 0.03251 | 10,0 | 1.00053 | 0,3 | 0.03249 | 10,0 | 30.780 | 94,6 |
| .0326 | .03261 | | .00053 | | .03259 | | 30.686 | 94,1 |
| .0327 | .03271 | | .00053 | | .03269 | | 30.592 | 93,5 |
| .0328 | .03281 | | .00054 | | .03279 | | 30.499 | 92,9 |
| .0329 | .03291 | | .00054 | | .03289 | | 30.406 | 92,4 |
| 0.0330 | 0.03301 | 10,0 | 1.00054 | 0,3 | 0.03299 | 10,0 | 30.314 | 91,8 |
| .0331 | .03311 | | .00055 | | .03309 | | 30.223 | 91,2 |
| .0332 | .03321 | | .00055 | | .03319 | | 30.132 | 90,7 |
| .0333 | .03331 | | .00055 | | .03329 | | 30.041 | 90,1 |
| .0334 | .03341 | | .00056 | | .03339 | | 29.951 | 89,6 |
| 0.0335 | 0.03351 | 10,0 | 1.00056 | 0,3 | 0.03349 | 10,0 | 29.862 | 89,1 |
| .0336 | .03361 | | .00056 | | .03359 | | 29.773 | 88,5 |
| .0337 | .03371 | | .00057 | | .03369 | | 29.685 | 88,0 |
| .0338 | .03381 | | .00057 | | .03379 | | 29.597 | 87,5 |
| .0339 | .03391 | | .00057 | | .03389 | | 29.510 | 87,0 |
| 0.0340 | 0.03401 | 10,0 | 1.00058 | 0,3 | 0.03399 | 10,0 | 29.423 | 86,6 |
| .0341 | .03411 | | .00058 | | .03409 | | 29.337 | 86,0 |
| .0342 | .03421 | | .00058 | | .03419 | | 29.251 | 85,5 |
| .0343 | .03431 | | .00059 | | .03429 | | 29.166 | 85,0 |
| .0344 | .03441 | | .00059 | | .03439 | | 29.081 | 84,5 |
| 0.0345 | 0.03451 | 10,0 | 1.00060 | 0,3 | 0.03449 | 10,0 | 28.997 | 84,0 |
| .0346 | .03461 | | .00060 | | .03459 | | 28.913 | 83,5 |
| .0347 | .03471 | | .00060 | | .03469 | | 28.830 | 83,0 |
| .0348 | .03481 | | .00061 | | .03479 | | 28.747 | 82,5 |
| .0349 | .03491 | | .00061 | | .03489 | | 28.665 | 82,1 |
| 0.0350 | 0.03501 | 10,0 | 1.00061 | 0,4 | 0.03499 | 10,0 | 28.583 | 81,6 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0350 | 0.0350I | 10,0 | 1.00061 | 0,4 | 0.03499 | 10,0 | 28.583 | 81,6 |
| .0351 | .0351I | | .00062 | | .03509 | | 28.502 | 81,1 |
| .0352 | .0352I | | .00062 | | .03519 | | 28.421 | 80,7 |
| .0353 | .0353I | | .00062 | | .03529 | | 28.340 | 80,2 |
| .0354 | .0354I | | .00063 | | .03539 | | 28.260 | 79,8 |
| 0.0355 | 0.0355I | 10,0 | 1.00063 | 0,4 | 0.03549 | 10,0 | 28.181 | 79,3 |
| .0356 | .0356I | | .00063 | | .03558 | | 28.102 | 78,9 |
| .0357 | .0357I | | .00064 | | .03568 | | 28.023 | 78,4 |
| .0358 | .0358I | | .00064 | | .03578 | | 27.945 | 78,0 |
| .0359 | .0359I | | .00064 | | .03588 | | 27.867 | 77,6 |
| 0.0360 | 0.0360I | 10,0 | 1.00065 | 0,4 | 0.03598 | 10,0 | 27.790 | 77,1 |
| .0361 | .0361I | | .00065 | | .03608 | | 27.713 | 76,7 |
| .0362 | .0362I | | .00066 | | .03618 | | 27.636 | 76,3 |
| .0363 | .0363I | | .00066 | | .03628 | | 27.560 | 75,9 |
| .0364 | .0364I | | .00066 | | .03638 | | 27.485 | 75,4 |
| 0.0365 | 0.0365I | 10,0 | 1.00067 | 0,4 | 0.03648 | 10,0 | 27.409 | 75,0 |
| .0366 | .0366I | | .00067 | | .03658 | | 27.335 | 74,6 |
| .0367 | .0367I | | .00067 | | .03668 | | 27.260 | 74,2 |
| .0368 | .0368I | | .00068 | | .03678 | | 27.186 | 73,8 |
| .0369 | .0369I | | .00068 | | .03688 | | 27.113 | 73,4 |
| 0.0370 | 0.0370I | 10,0 | 1.00068 | 0,4 | 0.03698 | 10,0 | 27.039 | 73,0 |
| .0371 | .0371I | | .00069 | | .03708 | | 26.967 | 72,6 |
| .0372 | .0372I | | .00069 | | .03718 | | 26.894 | 72,2 |
| .0373 | .0373I | | .00070 | | .03728 | | 26.822 | 71,8 |
| .0374 | .0374I | | .00070 | | .03738 | | 26.750 | 71,5 |
| 0.0375 | 0.0375I | 10,0 | 1.00070 | 0,4 | 0.03748 | 10,0 | 26.679 | 71,1 |
| .0376 | .0376I | | .00071 | | .03758 | | 26.608 | 70,7 |
| .0377 | .0377I | | .00071 | | .03768 | | 26.538 | 70,3 |
| .0378 | .0378I | | .00071 | | .03778 | | 26.468 | 70,0 |
| .0379 | .0379I | | .00072 | | .03788 | | 26.398 | 69,6 |
| 0.0380 | 0.0380I | 10,0 | 1.00072 | 0,4 | 0.03798 | 10,0 | 26.328 | 69,2 |
| .0381 | .0381I | | .00073 | | .03808 | | 26.259 | 68,9 |
| .0382 | .0382I | | .00073 | | .03818 | | 26.191 | 68,5 |
| .0383 | .0383I | | .00073 | | .03828 | | 26.122 | 68,1 |
| .0384 | .0384I | | .00074 | | .03838 | | 26.054 | 67,8 |
| 0.0385 | 0.0385I | 10,0 | 1.00074 | 0,4 | 0.03848 | 10,0 | 25.987 | 67,4 |
| .0386 | .0386I | | .00075 | | .03858 | | 25.920 | 67,1 |
| .0387 | .0387I | | .00075 | | .03868 | | 25.853 | 66,7 |
| .0388 | .0388I | | .00075 | | .03878 | | 25.786 | 66,4 |
| .0389 | .0389I | | .00076 | | .03888 | | 25.720 | 66,1 |
| 0.0390 | 0.0390I | 10,0 | 1.00076 | 0,4 | 0.03898 | 10,0 | 25.654 | 65,7 |
| .0391 | .0391I | | .00076 | | .03908 | | 25.588 | 65,4 |
| .0392 | .0392I | | .00077 | | .03918 | | 25.523 | 64,0 |
| .0393 | .0393I | | .00077 | | .03928 | | 25.458 | 64,7 |
| .0394 | .0394I | | .00078 | | .03938 | | 25.394 | 64,4 |
| 0.0395 | 0.0395I | 10,0 | 1.00078 | 0,4 | 0.03948 | 10,0 | 25.330 | 64,1 |
| .0396 | .0396I | | .00078 | | .03958 | | 25.266 | 63,7 |
| .0397 | .0397I | | .00079 | | .03968 | | 25.202 | 63,4 |
| .0398 | .0398I | | .00079 | | .03978 | | 25.139 | 63,1 |
| .0399 | .0399I | | .00080 | | .03988 | | 25.076 | 62,8 |
| 0.0400 | 0.0400I | 10,0 | 1.00080 | 0,4 | 0.03998 | 10,0 | 25.013 | 62,5 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0400 | 0.04001 | 10,0 | 1.00080 | 0,4 | 0.03998 | 10,0 | 25.013 | 62,5 |
| .0401 | .04011 | | .00080 | | .04008 | | 24.951 | 62,2 |
| .0402 | .04021 | | .00081 | | .04018 | | 24.889 | 61,8 |
| .0403 | .04031 | | .00081 | | .04028 | | 24.827 | 61,5 |
| .0404 | .04041 | | .00082 | | .04038 | | 24.766 | 61,2 |
| 0.0405 | 0.04051 | 10,0 | 1.00082 | 0,4 | 0.04048 | 10,0 | 24.705 | 60,8 |
| .0406 | .04061 | | .00082 | | .04058 | | 24.644 | 60,6 |
| .0407 | .04071 | | .00083 | | .04068 | | 24.584 | 60,3 |
| .0408 | .04081 | | .00083 | | .04078 | | 24.523 | 60,0 |
| .0409 | .04091 | | .00084 | | .04088 | | 24.464 | 59,7 |
| 0.0410 | 0.04101 | 10,0 | 1.00084 | 0,4 | 0.04098 | 10,0 | 24.404 | 59,5 |
| .0411 | .04111 | | .00084 | | .04108 | | 24.345 | 59,2 |
| .0412 | .04121 | | .00085 | | .04118 | | 24.286 | 58,9 |
| .0413 | .04131 | | .00085 | | .04128 | | 24.227 | 58,7 |
| .0414 | .04141 | | .00085 | | .04138 | | 24.168 | 58,3 |
| 0.0415 | 0.04151 | 10,0 | 1.00086 | 0,4 | 0.04148 | 10,0 | 24.110 | 58,0 |
| .0416 | .04161 | | .00087 | | .04158 | | 24.052 | 57,8 |
| .0417 | .04171 | | .00087 | | .04168 | | 23.995 | 57,5 |
| .0418 | .04181 | | .00087 | | .04178 | | 23.937 | 57,2 |
| .0419 | .04191 | | .00088 | | .04188 | | 23.880 | 56,9 |
| 0.0420 | 0.04201 | 10,0 | 1.00088 | 0,4 | 0.04198 | 10,0 | 23.824 | 56,7 |
| .0421 | .04211 | | .00089 | | .04208 | | 23.767 | 56,4 |
| .0422 | .04221 | | .00089 | | .04217 | | 23.711 | 56,1 |
| .0423 | .04231 | | .00089 | | .04227 | | 23.655 | 55,9 |
| .0424 | .04241 | | .00090 | | .04237 | | 23.599 | 55,6 |
| 0.0425 | 0.04251 | 10,0 | 1.00090 | 0,4 | 0.04247 | 10,0 | 23.544 | 55,3 |
| .0426 | .04261 | | .00091 | | .04257 | | 23.488 | 55,1 |
| .0427 | .04271 | | .00091 | | .04267 | | 23.433 | 54,8 |
| .0428 | .04281 | | .00092 | | .04277 | | 23.379 | 54,6 |
| .0429 | .04291 | | .00092 | | .04287 | | 23.324 | 54,3 |
| 0.0430 | 0.04301 | 10,0 | 1.00092 | 0,4 | 0.04297 | 10,0 | 23.270 | 54,0 |
| .0431 | .04311 | | .00093 | | .04307 | | 23.216 | 53,8 |
| .0432 | .04321 | | .00093 | | .04317 | | 23.163 | 53,6 |
| .0433 | .04331 | | .00094 | | .04327 | | 23.109 | 53,3 |
| .0434 | .04341 | | .00094 | | .04337 | | 23.056 | 53,1 |
| 0.0435 | 0.04351 | 10,0 | 1.00095 | 0,4 | 0.04347 | 10,0 | 23.003 | 52,8 |
| .0436 | .04361 | | .00095 | | .04357 | | 22.950 | 52,6 |
| .0437 | .04371 | | .00095 | | .04367 | | 22.898 | 52,3 |
| .0438 | .04381 | | .00096 | | .04377 | | 22.846 | 52,1 |
| .0439 | .04391 | | .00096 | | .04387 | | 22.794 | 51,9 |
| 0.0440 | 0.04401 | 10,0 | 1.00097 | 0,4 | 0.04397 | 10,0 | 22.742 | 51,6 |
| .0441 | .04411 | | .00097 | | .04407 | | 22.690 | 51,4 |
| .0442 | .04421 | | .00098 | | .04417 | | 22.639 | 51,2 |
| .0443 | .04431 | | .00098 | | .04427 | | 22.588 | 50,9 |
| .0444 | .04441 | | .00099 | | .04437 | | 22.537 | 50,7 |
| 0.0445 | 0.04451 | 10,0 | 1.00099 | 0,4 | 0.04447 | 10,0 | 22.487 | 50,5 |
| .0446 | .04461 | | .00099 | | .04457 | | 22.436 | 50,2 |
| .0447 | .04471 | | .00100 | | .04467 | | 22.386 | 50,0 |
| .0448 | .04481 | | .00100 | | .04477 | | 22.336 | 49,8 |
| .0449 | .04492 | | .00101 | | .04487 | | 22.287 | 49,6 |
| 0.0450 | 0.04502 | 10,0 | 1.00101 | 0,5 | 0.04497 | 10,0 | 22.237 | 49,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0450 | 0.04502 | 10,0 | 1.00101 | 0,5 | 0.04497 | 10,0 | 22.237 | 49,3 |
| .0451 | .04512 | | .00102 | | .04507 | | 22.188 | 49,1 |
| .0452 | .04522 | | .00102 | | .04517 | | 22.139 | 48,9 |
| .0453 | .04532 | | .00103 | | .04527 | | 22.090 | 48,7 |
| .0454 | .04542 | | .00103 | | .04537 | | 22.042 | 48,5 |
| 0.0455 | 0.04552 | 10,0 | 1.00104 | 0,5 | 0.04547 | 10,0 | 21.993 | 48,3 |
| .0456 | .04562 | | .00104 | | .04557 | | 21.945 | 48,1 |
| .0457 | .04572 | | .00104 | | .04567 | | 21.897 | 47,8 |
| .0458 | .04582 | | .00105 | | .04577 | | 21.849 | 47,6 |
| .0459 | .04592 | | .00105 | | .04587 | | 21.802 | 47,4 |
| 0.0460 | 0.04602 | 10,0 | 1.00106 | 0,5 | 0.04597 | 10,0 | 21.754 | 47,2 |
| .0461 | .04612 | | .00106 | | .04607 | | 21.707 | 47,0 |
| .0462 | .04622 | | .00107 | | .04617 | | 21.660 | 46,8 |
| .0463 | .04632 | | .00107 | | .04627 | | 21.614 | 46,6 |
| .0464 | .04642 | | .00108 | | .04637 | | 21.567 | 46,4 |
| 0.0465 | 0.04652 | 10,0 | 1.00108 | 0,5 | 0.04647 | 10,0 | 21.521 | 46,2 |
| .0466 | .04662 | | .00109 | | .04657 | | 21.475 | 46,0 |
| .0467 | .04672 | | .00109 | | .04667 | | 21.429 | 45,8 |
| .0468 | .04682 | | .00110 | | .04677 | | 21.383 | 45,6 |
| .0469 | .04692 | | .00110 | | .04687 | | 21.338 | 45,4 |
| 0.0470 | 0.04702 | 10,0 | 1.00110 | 0,5 | 0.04697 | 10,0 | 21.292 | 45,2 |
| .0471 | .04712 | | .00111 | | .04707 | | 21.247 | 45,0 |
| .0472 | .04722 | | .00111 | | .04716 | | 21.202 | 44,9 |
| .0473 | .04732 | | .00112 | | .04726 | | 21.157 | 44,7 |
| .0474 | .04742 | | .00112 | | .04736 | | 21.113 | 44,5 |
| 0.0475 | 0.04752 | 10,0 | 1.00113 | 0,5 | 0.04746 | 10,0 | 21.068 | 44,3 |
| .0476 | .04762 | | .00113 | | .04756 | | 21.024 | 44,1 |
| .0477 | .04772 | | .00114 | | .04766 | | 20.980 | 43,9 |
| .0478 | .04782 | | .00114 | | .04776 | | 20.936 | 43,7 |
| .0479 | .04792 | | .00115 | | .04786 | | 20.893 | 43,6 |
| 0.0480 | 0.04802 | 10,0 | 1.00115 | 0,5 | 0.04796 | 10,0 | 20.849 | 43,4 |
| .0481 | .04812 | | .00116 | | .04806 | | 20.806 | 43,2 |
| .0482 | .04822 | | .00116 | | .04816 | | 20.763 | 43,0 |
| .0483 | .04832 | | .00117 | | .04826 | | 20.720 | 42,8 |
| .0484 | .04842 | | .00117 | | .04836 | | 20.677 | 42,7 |
| 0.0485 | 0.04852 | 10,0 | 1.00118 | 0,5 | 0.04846 | 10,0 | 20.635 | 42,5 |
| .0486 | .04862 | | .00118 | | .04856 | | 20.592 | 42,3 |
| .0487 | .04872 | | .00119 | | .04866 | | 20.550 | 42,1 |
| .0488 | .04882 | | .00119 | | .04876 | | 20.508 | 42,0 |
| .0489 | .04892 | | .00120 | | .04886 | | 20.466 | 41,8 |
| 0.0490 | 0.04902 | 10,0 | 1.00120 | 0,5 | 0.04896 | 10,0 | 20.424 | 41,6 |
| .0491 | .04912 | | .00121 | | .04906 | | 20.383 | 41,4 |
| .0492 | .04922 | | .00121 | | .04916 | | 20.342 | 41,3 |
| .0493 | .04932 | | .00122 | | .04926 | | 20.300 | 41,1 |
| .0494 | .04942 | | .00122 | | .04936 | | 20.259 | 40,9 |
| 0.0495 | 0.04952 | 10,0 | 1.00123 | 0,5 | 0.04946 | 10,0 | 20.219 | 40,8 |
| .0496 | .04962 | | .00123 | | .04956 | | 20.178 | 40,6 |
| .0497 | .04972 | | .00124 | | .04966 | | 20.137 | 40,5 |
| .0498 | .04982 | | .00124 | | .04976 | | 20.097 | 40,3 |
| .0499 | .04992 | | .00125 | | .04986 | | 20.057 | 40,1 |
| 0.0500 | 0.05002 | 10,0 | 1.00125 | 0,5 | 0.04996 | 10,0 | 20.017 | 40,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0500 | 0.05002 | 10,0 | 1.00125 | 0,5 | 0.04996 | 10,0 | 20.017 | 40,0 |
| .0501 | .05012 | | .00126 | | .05006 | | 19.977 | 39,8 |
| .0502 | .05022 | | .00126 | | .05016 | | 19.937 | 39,6 |
| .0503 | .05032 | | .00127 | | .05026 | | 19.897 | 39,5 |
| .0504 | .05042 | | .00127 | | .05036 | | 19.858 | 39,3 |
| 0.0505 | 0.05052 | 10,0 | 1.00128 | 0,5 | 0.05046 | 10,0 | 19.819 | 39,2 |
| .0506 | .05062 | | .00128 | | .05056 | | 19.780 | 39,0 |
| .0507 | .05072 | | .00129 | | .05066 | | 19.741 | 38,9 |
| .0508 | .05082 | | .00129 | | .05076 | | 19.702 | 38,7 |
| .0509 | .05092 | | .00130 | | .05086 | | 19.663 | 38,6 |
| 0.0510 | 0.05102 | 10,0 | 1.00130 | 0,5 | 0.05096 | 10,0 | 19.625 | 38,4 |
| .0511 | .05112 | | .00131 | | .05106 | | 19.587 | 38,3 |
| .0512 | .05122 | | .00131 | | .05116 | | 19.548 | 38,1 |
| .0513 | .05132 | | .00132 | | .05126 | | 19.510 | 38,0 |
| .0514 | .05142 | | .00132 | | .05135 | | 19.472 | 37,8 |
| 0.0515 | 0.05152 | 10,0 | 1.00133 | 0,5 | 0.05145 | 10,0 | 19.435 | 37,7 |
| .0516 | .05162 | | .00133 | | .05155 | | 19.397 | 37,5 |
| .0517 | .05172 | | .00134 | | .05165 | | 19.360 | 37,4 |
| .0518 | .05182 | | .00134 | | .05175 | | 19.322 | 37,2 |
| .0519 | .05192 | | .00135 | | .05185 | | 19.285 | 37,1 |
| 0.0520 | 0.05202 | 10,0 | 1.00135 | 0,5 | 0.05195 | 10,0 | 19.248 | 36,9 |
| .0521 | .05212 | | .00136 | | .05205 | | 19.211 | 36,8 |
| .0522 | .05222 | | .00136 | | .05215 | | 19.174 | 36,7 |
| .0523 | .05232 | | .00137 | | .05225 | | 19.138 | 36,5 |
| .0524 | .05242 | | .00137 | | .05235 | | 19.101 | 36,4 |
| 0.0525 | 0.05252 | 10,0 | 1.00138 | 0,5 | 0.05245 | 10,0 | 19.065 | 36,2 |
| .0526 | .05262 | | .00138 | | .05255 | | 19.029 | 36,1 |
| .0527 | .05272 | | .00139 | | .05265 | | 18.993 | 36,0 |
| .0528 | .05282 | | .00139 | | .05275 | | 18.957 | 35,8 |
| .0529 | .05292 | | .00140 | | .05285 | | 18.921 | 35,7 |
| 0.0530 | 0.05302 | 10,0 | 1.00140 | 0,5 | 0.05295 | 10,0 | 18.886 | 35,6 |
| .0531 | .05312 | | .00141 | | .05305 | | 18.850 | 35,4 |
| .0532 | .05323 | | .00142 | | .05315 | | 18.815 | 35,3 |
| .0533 | .05333 | | .00142 | | .05325 | | 18.779 | 35,2 |
| .0534 | .05343 | | .00143 | | .05335 | | 18.744 | 35,0 |
| 0.0535 | 0.05353 | 10,0 | 1.00143 | 0,5 | 0.05345 | 10,0 | 18.709 | 34,9 |
| .0536 | .05363 | | .00144 | | .05355 | | 18.675 | 34,8 |
| .0537 | .05373 | | .00144 | | .05365 | | 18.640 | 34,6 |
| .0538 | .05383 | | .00145 | | .05375 | | 18.605 | 34,5 |
| .0539 | .05393 | | .00145 | | .05385 | | 18.571 | 34,4 |
| 0.0540 | 0.05403 | 10,0 | 1.00146 | 0,5 | 0.05395 | 10,0 | 18.537 | 34,3 |
| .0541 | .05413 | | .00146 | | .05405 | | 18.502 | 34,1 |
| .0542 | .05423 | | .00147 | | .05415 | | 18.468 | 34,0 |
| .0543 | .05433 | | .00147 | | .05425 | | 18.434 | 33,9 |
| .0544 | .05443 | | .00148 | | .05435 | | 18.400 | 33,8 |
| 0.0545 | 0.05453 | 10,0 | 1.00149 | 0,5 | 0.05445 | 10,0 | 18.367 | 33,6 |
| .0546 | .05463 | | .00149 | | .05455 | | 18.333 | 33,5 |
| .0547 | .05473 | | .00150 | | .05465 | | 18.300 | 33,4 |
| .0548 | .05483 | | .00150 | | .05475 | | 18.266 | 33,3 |
| .0549 | .05493 | | .00151 | | .05484 | | 18.233 | 33,1 |
| 0.0550 | 0.05503 | 10,0 | 1.00151 | 0,6 | 0.05494 | 10,0 | 18.200 | 33,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|-----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0550 | 0.05503 | 10,0 | 1.00151 | 0,6 | 0.05494 | 10,0 | 18.200 | 33,0 |
| .0551 | .05513 | | .00152 | | .05504 | | 18.167 | 32,9 |
| .0552 | .05523 | | .00152 | | .05514 | | 18.134 | 32,8 |
| .0553 | .05533 | | .00153 | | .05524 | | 18.102 | 32,7 |
| .0554 | .05543 | | .00153 | | .05534 | | 18.069 | 32,5 |
| 0.0555 | 0.05553 | 10,0 | 1.00154 | 0,6 | 0.05544 | 10,0 | 18.037 | 32,4 |
| .0556 | .05563 | | .00155 | | .05554 | | 18.004 | 32,3 |
| .0557 | .05573 | | .00155 | | .05564 | | 17.972 | 32,2 |
| .0558 | .05583 | | .00156 | | .05574 | | 17.940 | 32,1 |
| .0559 | .05593 | | .00156 | | .05584 | | 17.908 | 32,0 |
| 0.0560 | 0.05603 | 10,0 | 1.00157 | 0,6 | ②05594 | 10,0 | 17.876 | 31,9 |
| .0561 | .05613 | | .00157 | | .05604 | | 17.844 | 31,7 |
| .0562 | .05623 | | .00158 | | .05614 | | 17.812 | 31,6 |
| .0563 | .05633 | | .00159 | | .05624 | | 17.781 | 31,5 |
| .0564 | .05643 | | .00159 | | .05634 | | 17.749 | 31,4 |
| 0.0565 | 0.05653 | 10,0 | 1.00160 | 0,6 | 0.05644 | 10,0 | 17.718 | 31,3 |
| .0566 | .05663 | | .00160 | | .05654 | | 17.687 | 31,2 |
| .0567 | .05673 | | .00161 | | .05664 | | 17.656 | 31,1 |
| .0568 | .05683 | | .00161 | | .05674 | | 17.625 | 31,0 |
| .0569 | .05693 | | .00162 | | .05684 | | 17.594 | 30,9 |
| 0.0570 | 0.05703 | 10,0 | 1.00162 | 0,6 | 0.05694 | 10,0 | 17.563 | 30,7 |
| .0571 | .05713 | | .00163 | | .05704 | | 17.532 | 30,6 |
| .0572 | .05723 | | .00164 | | .05714 | | 17.502 | 30,5 |
| .0573 | .05733 | | .00164 | | .05724 | | 17.471 | 30,4 |
| .0574 | .05743 | | .00165 | | .05734 | | 17.441 | 30,3 |
| 0.0575 | 0.05753 | 10,0 | 1.00165 | 0,6 | 0.05744 | 10,0 | 17.410 | 30,2 |
| .0576 | .05763 | | .00166 | | .05754 | | 17.380 | 30,1 |
| .0577 | .05773 | | .00167 | | .05764 | | 17.350 | 30,0 |
| .0578 | .05783 | | .00167 | | .05774 | | 17.320 | 29,9 |
| .0579 | .05793 | | .00168 | | .05784 | | 17.290 | 29,8 |
| 0.0580 | 0.05803 | 10,0 | 1.00168 | 0,6 | 0.05794 | 10,0 | 17.261 | 29,7 |
| .0581 | .05813 | | .00169 | | .05803 | | 17.231 | 29,6 |
| .0582 | .05823 | | .00169 | | .05813 | | 17.202 | 29,5 |
| .0583 | .05833 | | .00170 | | .05823 | | 17.172 | 29,4 |
| .0584 | .05843 | | .00171 | | .05833 | | 17.143 | 29,3 |
| 0.0585 | 0.05853 | 10,0 | 1.00171 | 0,6 | 0.05843 | 10,0 | 17.114 | 29,2 |
| .0586 | .05863 | | .00172 | | .05853 | | 17.084 | 29,1 |
| .0587 | .05873 | | .00172 | | .05863 | | 17.055 | 29,0 |
| .0588 | .05883 | | .00173 | | .05873 | | 17.026 | 28,9 |
| .0589 | .05893 | | .00174 | | .05883 | | 16.998 | 28,8 |
| 0.0590 | 0.05903 | 10,0 | 1.00174 | 0,6 | 0.05893 | 10,0 | 16.969 | 28,7 |
| .0591 | .05913 | | .00175 | | .05903 | | 16.940 | 28,6 |
| .0592 | .05923 | | .00175 | | .05913 | | 16.912 | 28,5 |
| .0593 | .05933 | | .00176 | | .05923 | | 16.883 | 28,4 |
| .0594 | .05943 | | .00176 | | .05933 | | 16.855 | 28,3 |
| 0.0595 | 0.05954 | 10,0 | 1.00177 | 0,6 | 0.05943 | 10,0 | 16.827 | 28,2 |
| .0596 | .05964 | | .00178 | | .05953 | | 16.798 | 28,1 |
| .0597 | .05974 | | .00178 | | .05963 | | 16.770 | 28,0 |
| .0598 | .05984 | | .00179 | | .05973 | | 16.742 | 27,9 |
| .0599 | .05994 | | .00179 | | .05983 | | 16.714 | 27,8 |
| 0.0600 | 0.06004 | 10,0 | 1.00180 | 0,6 | 0.05993 | 10,0 | 16.687 | 27,7 |
| u | tanh gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0600 | 0.06004 | 10,0 | 1.00180 | 0,6 | 0.05993 | 10,0 | 16.687 | 27,7 |
| .0601 | .06014 | | .00181 | | .06003 | | 16.659 | 27,7 |
| .0602 | .06024 | | .00181 | | .06013 | | 16.631 | 27,6 |
| .0603 | .06034 | | .00182 | | .06023 | | 16.604 | 27,5 |
| .0604 | .06044 | | .00182 | | .06033 | | 16.576 | 27,4 |
| 0.0605 | 0.06054 | 10,0 | 1.00183 | 0,6 | 0.06043 | 10,0 | 16.549 | 27,3 |
| .0606 | .06064 | | .00184 | | .06053 | | 16.522 | 27,2 |
| .0607 | .06074 | | .00184 | | .06063 | | 16.495 | 27,1 |
| .0608 | .06084 | | .00185 | | .06073 | | 16.468 | 27,0 |
| .0609 | .06094 | | .00185 | | .06082 | | 16.441 | 26,9 |
| 0.0610 | 0.06104 | 10,0 | 1.00186 | 0,6 | 0.06092 | 10,0 | 16.414 | 26,8 |
| .0611 | .06114 | | .00187 | | .06102 | | 16.387 | 26,8 |
| .0612 | .06124 | | .00187 | | .06112 | | 16.360 | 26,7 |
| .0613 | .06134 | | .00188 | | .06122 | | 16.334 | 26,6 |
| .0614 | .06144 | | .00189 | | .06132 | | 16.307 | 26,5 |
| 0.0615 | 0.06154 | 10,0 | 1.00189 | 0,6 | 0.06142 | 10,0 | 16.281 | 26,4 |
| .0616 | .06164 | | .00190 | | .06152 | | 16.254 | 26,3 |
| .0617 | .06174 | | .00190 | | .06162 | | 16.228 | 26,2 |
| .0618 | .06184 | | .00191 | | .06172 | | 16.202 | 26,1 |
| .0619 | .06194 | | .00192 | | .06182 | | 16.176 | 26,1 |
| 0.0620 | 0.06204 | 10,0 | 1.00192 | 0,6 | 0.06192 | 10,0 | 16.150 | 26,0 |
| .0621 | .06214 | | .00193 | | .06202 | | 16.124 | 25,9 |
| .0622 | .06224 | | .00194 | | .06212 | | 16.098 | 25,8 |
| .0623 | .06234 | | .00194 | | .06222 | | 16.072 | 25,7 |
| .0624 | .06244 | | .00195 | | .06232 | | 16.046 | 25,6 |
| 0.0625 | 0.06254 | 10,0 | 1.00195 | 0,6 | 0.06242 | 10,0 | 16.021 | 25,6 |
| .0626 | .06264 | | .00196 | | .06252 | | 15.995 | 25,5 |
| .0627 | .06274 | | .00197 | | .06262 | | 15.970 | 25,4 |
| .0628 | .06284 | | .00197 | | .06272 | | 15.944 | 25,3 |
| .0629 | .06294 | | .00198 | | .06282 | | 15.919 | 25,2 |
| 0.0630 | 0.06304 | 10,0 | 1.00199 | 0,6 | 0.06292 | 10,0 | 15.894 | 25,2 |
| .0631 | .06314 | | .00199 | | .06302 | | 15.869 | 25,1 |
| .0632 | .06324 | | .00200 | | .06312 | | 15.844 | 25,0 |
| .0633 | .06334 | | .00200 | | .06322 | | 15.819 | 24,9 |
| .0634 | .06344 | | .00201 | | .06332 | | 15.794 | 24,8 |
| 0.0635 | 0.06354 | 10,0 | 1.00202 | 0,6 | 0.06342 | 10,0 | 15.769 | 24,8 |
| .0636 | .06364 | | .00202 | | .06351 | | 15.744 | 24,7 |
| .0637 | .06374 | | .00203 | | .06361 | | 15.720 | 24,6 |
| .0638 | .06384 | | .00204 | | .06371 | | 15.695 | 24,5 |
| .0639 | .06394 | | .00204 | | .06381 | | 15.671 | 24,5 |
| 0.0640 | 0.06404 | 10,0 | 1.00205 | 0,6 | 0.06391 | 10,0 | 15.646 | 24,4 |
| .0641 | .06414 | | .00206 | | .06401 | | 15.622 | 24,3 |
| .0642 | .06424 | | .00206 | | .06411 | | 15.598 | 24,2 |
| .0643 | .06434 | | .00207 | | .06421 | | 15.574 | 24,2 |
| .0644 | .06444 | | .00207 | | .06431 | | 15.549 | 24,1 |
| 0.0645 | 0.06454 | 10,0 | 1.00208 | 0,6 | 0.06441 | 10,0 | 15.525 | 24,0 |
| .0646 | .06464 | | .00209 | | .06451 | | 15.501 | 23,9 |
| .0647 | .06475 | | .00209 | | .06461 | | 15.478 | 23,9 |
| .0648 | .06485 | | .00210 | | .06471 | | 15.454 | 23,8 |
| .0649 | .06495 | | .00211 | | .06481 | | 15.430 | 23,7 |
| 0.0650 | 0.06505 | 10,0 | 1.00211 | 0,7 | 0.06491 | 10,0 | 15.406 | 23,6 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0650 | 0.06505 | 10,0 | 1.00211 | 0,7 | 0.06491 | 10,0 | 15.406 | 23,6 |
| .0651 | .06515 | | .00212 | | .06501 | | 15.383 | 23,6 |
| .0652 | .06525 | | .00213 | | .06511 | | 15.359 | 23,5 |
| .0653 | .06535 | | .00213 | | .06521 | | 15.336 | 23,4 |
| .0654 | .06545 | | .00214 | | .06531 | | 15.312 | 23,3 |
| 0.0655 | 0.06555 | 10,0 | 1.00215 | 0,7 | 0.06541 | 10,0 | 15.289 | 23,3 |
| .0656 | .06565 | | .00215 | | .06551 | | 15.266 | 23,2 |
| .0657 | .06575 | | .00216 | | .06561 | | 15.243 | 23,1 |
| .0658 | .06585 | | .00217 | | .06571 | | 15.219 | 23,1 |
| .0659 | .06595 | | .00217 | | .06580 | | 15.196 | 23,0 |
| 0.0660 | 0.06605 | 10,0 | 1.00218 | 0,7 | 0.06590 | 10,0 | 15.174 | 22,9 |
| .0661 | .06615 | | .00219 | | .06600 | | 15.151 | 22,9 |
| .0662 | .06625 | | .00219 | | .06610 | | 15.128 | 22,8 |
| .0663 | .06635 | | .00220 | | .06620 | | 15.105 | 22,7 |
| .0664 | .06645 | | .00221 | | .06630 | | 15.082 | 22,6 |
| 0.0665 | 0.06655 | 10,0 | 1.00221 | 0,7 | 0.06640 | 10,0 | 15.060 | 22,6 |
| .0666 | .06665 | | .00222 | | .06650 | | 15.037 | 22,5 |
| .0667 | .06675 | | .00223 | | .06660 | | 15.015 | 22,4 |
| .0668 | .06685 | | .00223 | | .06670 | | 14.992 | 22,4 |
| .0669 | .06695 | | .00224 | | .06680 | | 14.970 | 22,3 |
| 0.0670 | 0.06705 | 10,0 | 1.00225 | 0,7 | 0.06690 | 10,0 | 14.948 | 22,2 |
| .0671 | .06715 | | .00225 | | .06700 | | 14.925 | 22,2 |
| .0672 | .06725 | | .00226 | | .06710 | | 14.903 | 22,1 |
| .0673 | .06735 | | .00227 | | .06720 | | 14.881 | 22,0 |
| .0674 | .06745 | | .00227 | | .06730 | | 14.859 | 22,0 |
| 0.0675 | 0.06755 | 10,0 | 1.00228 | 0,7 | 0.06740 | 10,0 | 14.837 | 21,9 |
| .0676 | .06765 | | .00229 | | .06750 | | 14.815 | 21,8 |
| .0677 | .06775 | | .00229 | | .06760 | | 14.794 | 21,8 |
| .0678 | .06785 | | .00230 | | .06770 | | 14.772 | 21,7 |
| .0679 | .06795 | | .00231 | | .06780 | | 14.750 | 21,7 |
| 0.0680 | 0.06805 | 10,0 | 1.00231 | 0,7 | 0.06790 | 10,0 | 14.729 | 21,6 |
| .0681 | .06815 | | .00232 | | .06799 | | 14.707 | 21,5 |
| .0682 | .06825 | | .00233 | | .06809 | | 14.685 | 21,5 |
| .0683 | .06835 | | .00233 | | .06819 | | 14.664 | 21,4 |
| .0684 | .06845 | | .00234 | | .06829 | | 14.643 | 21,3 |
| 0.0685 | 0.06855 | 10,0 | 1.00235 | 0,7 | 0.06839 | 10,0 | 14.621 | 21,3 |
| .0686 | .06865 | | .00235 | | .06849 | | 14.600 | 21,2 |
| .0687 | .06875 | | .00236 | | .06859 | | 14.579 | 21,2 |
| .0688 | .06885 | | .00237 | | .06869 | | 14.558 | 21,1 |
| .0689 | .06895 | | .00237 | | .06879 | | 14.537 | 21,0 |
| 0.0690 | 0.06905 | 10,0 | 1.00238 | 0,7 | 0.06889 | 10,0 | 14.516 | 21,0 |
| .0691 | .06916 | | .00239 | | .06899 | | 14.495 | 20,9 |
| .0692 | .06926 | | .00240 | | .06909 | | 14.474 | 20,8 |
| .0693 | .06936 | | .00240 | | .06919 | | 14.453 | 20,8 |
| .0694 | .06946 | | .00241 | | .06929 | | 14.432 | 20,7 |
| 0.0695 | 0.06956 | 10,0 | 1.00242 | 0,7 | 0.06939 | 10,0 | 14.412 | 20,7 |
| .0696 | .06966 | | .00242 | | .06949 | | 14.391 | 20,6 |
| .0697 | .06976 | | .00243 | | .06959 | | 14.370 | 20,6 |
| .0698 | .06986 | | .00244 | | .06969 | | 14.350 | 20,5 |
| .0699 | .06996 | | .00244 | | .06979 | | 14.329 | 20,4 |
| 0.0700 | 0.07006 | 10,0 | 1.00245 | 0,7 | 0.06989 | 10,0 | 14.309 | 20,4 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0700 | 0.07006 | 10,0 | 1.00245 | 0,7 | 0.06989 | 10,0 | 14.309 | 20,4 |
| .0701 | .07016 | | .00246 | | .06999 | | 14.289 | 20,3 |
| .0702 | .07026 | | .00247 | | .07008 | | 14.268 | 20,3 |
| .0703 | .07036 | | .00247 | | .07018 | | 14.248 | 20,2 |
| .0704 | .07046 | | .00248 | | .07028 | | 14.228 | 20,1 |
| 0.0705 | 0.07056 | 10,0 | 1.00249 | 0,7 | 0.07038 | 10,0 | 14.208 | 20,1 |
| .0706 | .07066 | | .00249 | | .07048 | | 14.188 | 20,0 |
| .0707 | .07076 | | .00250 | | .07058 | | 14.168 | 20,0 |
| .0708 | .07086 | | .00251 | | .07068 | | 14.148 | 19,9 |
| .0709 | .07096 | | .00251 | | .07078 | 9,9 | 14.128 | 19,9 |
| 0.0710 | 0.07106 | 10,0 | 1.00252 | 0,7 | 0.07088 | 9,9 | 14.108 | 19,8 |
| .0711 | .07116 | | .00253 | | .07098 | | 14.088 | 19,7 |
| .0712 | .07126 | | .00254 | | .07108 | | 14.069 | 19,7 |
| .0713 | .07136 | | .00254 | | .07118 | | 14.049 | 19,6 |
| .0714 | .07146 | | .00255 | | .07128 | | 14.029 | 19,6 |
| 0.0715 | 0.07156 | 10,0 | 1.00256 | 0,7 | 0.07138 | 9,9 | 14.010 | 19,5 |
| .0716 | .07166 | | .00256 | | .07148 | | 13.990 | 19,5 |
| .0717 | .07176 | | .00257 | | .07158 | | 13.971 | 19,4 |
| .0718 | .07186 | | .00258 | | .07168 | | 13.952 | 19,4 |
| .0719 | .07196 | | .00259 | | .07178 | | 13.932 | 19,3 |
| 0.0720 | 0.07206 | 10,0 | 1.00259 | 0,7 | 0.07188 | 9,9 | 13.913 | 19,3 |
| .0721 | .07216 | | .00260 | | .07198 | | 13.894 | 19,2 |
| .0722 | .07226 | | .00261 | | .07207 | | 13.874 | 19,2 |
| .0723 | .07236 | | .00261 | | .07217 | | 13.855 | 19,1 |
| .0724 | .07246 | | .00262 | | .07227 | | 13.836 | 19,0 |
| 0.0725 | 0.07256 | 10,0 | 1.00263 | 0,7 | 0.07237 | 9,9 | 13.817 | 19,0 |
| .0726 | .07266 | | .00264 | | .07247 | | 13.798 | 18,9 |
| .0727 | .07276 | | .00264 | | .07257 | | 13.779 | 18,9 |
| .0728 | .07286 | | .00265 | | .07267 | | 13.761 | 18,8 |
| .0729 | .07296 | | .00266 | | .07277 | | 13.742 | 18,8 |
| 0.0730 | 0.07306 | 10,0 | 1.00267 | 0,7 | 0.07287 | 9,9 | 13.723 | 18,7 |
| .0731 | .07316 | | .00267 | | .07297 | | 13.704 | 18,7 |
| .0732 | .07327 | | .00268 | | .07307 | | 13.686 | 18,6 |
| .0733 | .07337 | | .00269 | | .07317 | | 13.667 | 18,6 |
| .0734 | .07347 | | .00269 | | .07327 | | 13.648 | 18,5 |
| 0.0735 | 0.07357 | 10,0 | 1.00270 | 0,7 | 0.07337 | 9,9 | 13.630 | 18,5 |
| .0736 | .07367 | | .00271 | | .07347 | | 13.611 | 18,4 |
| .0737 | .07377 | | .00272 | | .07357 | | 13.593 | 18,4 |
| .0738 | .07387 | | .00272 | | .07367 | | 13.575 | 18,3 |
| .0739 | .07397 | | .00273 | | .07377 | | 13.556 | 18,3 |
| 0.0740 | 0.07407 | 10,0 | 1.00274 | 0,7 | 0.07387 | 9,9 | 13.538 | 18,2 |
| .0741 | .07417 | | .00275 | | .07396 | | 13.520 | 18,2 |
| .0742 | .07427 | | .00275 | | .07406 | | 13.502 | 18,1 |
| .0743 | .07437 | | .00276 | | .07416 | | 13.484 | 18,1 |
| .0744 | .07447 | | .00277 | | .07426 | | 13.466 | 18,0 |
| 0.0745 | 0.07457 | 10,0 | 1.00278 | 0,7 | 0.07435 | 9,9 | 13.448 | 18,0 |
| .0746 | .07467 | | .00278 | | .07446 | | 13.430 | 17,9 |
| .0747 | .07477 | | .00279 | | .07456 | | 13.412 | 17,9 |
| .0748 | .07487 | | .00280 | | .07466 | | 13.394 | 17,8 |
| .0749 | .07497 | | .00281 | | .07476 | | 13.376 | 17,8 |
| 0.0750 | 0.07507 | 10,0 | 1.00281 | 0,8 | 0.07486 | 9,9 | 13.358 | 17,7 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0750 | 0.07507 | 10,0 | 1.00281 | 0,8 | 0.07486 | 9,9 | 13.358 | 17,7 |
| .0751 | .07517 | | .00282 | | .07496 | | 13.341 | 17,7 |
| .0752 | .07527 | | .00283 | | .07506 | | 13.323 | 17,7 |
| .0753 | .07537 | | .00284 | | .07516 | | 13.305 | 17,6 |
| .0754 | .07547 | | .00284 | | .07526 | | 13.288 | 17,6 |
| 0.0755 | 0.07557 | 10,0 | 1.00285 | 0,8 | 0.07536 | 9,9 | 13.270 | 17,5 |
| .0756 | .07567 | | .00286 | | .07546 | | 13.253 | 17,5 |
| .0757 | .07577 | | .00287 | | .07556 | | 13.235 | 17,4 |
| .0758 | .07587 | | .00287 | | .07566 | | 13.218 | 17,4 |
| .0759 | .07597 | | .00288 | | .07575 | | 13.201 | 17,3 |
| 0.0760 | 0.07607 | 10,0 | 1.00289 | 0,8 | 0.07585 | 9,9 | 13.183 | 17,3 |
| .0761 | .07617 | | .00290 | | .07595 | | 13.166 | 17,2 |
| .0762 | .07627 | | .00290 | | .07605 | | 13.149 | 17,2 |
| .0763 | .07637 | | .00291 | | .07615 | | 13.132 | 17,1 |
| .0764 | .07647 | | .00292 | | .07625 | | 13.114 | 17,1 |
| 0.0765 | 0.07657 | 10,0 | 1.00293 | 0,8 | 0.07635 | 9,9 | 13.097 | 17,1 |
| .0766 | .07667 | | .00294 | | .07645 | | 13.080 | 17,0 |
| .0767 | .07678 | | .00294 | | .07655 | | 13.063 | 17,0 |
| .0768 | .07688 | | .00295 | | .07665 | | 13.046 | 16,9 |
| .0769 | .07698 | | .00296 | | .07675 | | 13.030 | 16,9 |
| 0.0770 | 0.07708 | 10,0 | 1.00297 | 0,8 | 0.07685 | 9,9 | 13.013 | 16,8 |
| .0771 | .07718 | | .00297 | | .07695 | | 12.996 | 16,8 |
| .0772 | .07728 | | .00298 | | .07705 | | 12.979 | 16,7 |
| .0773 | .07738 | | .00299 | | .07715 | | 12.962 | 16,7 |
| .0774 | .07748 | | .00300 | | .07725 | | 12.946 | 16,7 |
| 0.0775 | 0.07758 | 10,0 | 1.00300 | 0,8 | 0.07735 | 9,9 | 12.929 | 16,6 |
| .0776 | .07768 | | .00301 | | .07744 | | 12.912 | 16,6 |
| .0777 | .07778 | | .00302 | | .07754 | | 12.896 | 16,5 |
| .0778 | .07788 | | .00303 | | .07764 | | 12.879 | 16,5 |
| .0779 | .07798 | | .00304 | | .07774 | | 12.863 | 16,5 |
| 0.0780 | 0.07808 | 10,0 | 1.00304 | 0,8 | 0.07784 | 9,9 | 12.847 | 16,4 |
| .0781 | .07818 | | .00305 | | .07794 | | 12.830 | 16,4 |
| .0782 | .07828 | | .00306 | | .07804 | | 12.814 | 16,3 |
| .0783 | .07838 | | .00307 | | .07814 | | 12.797 | 16,3 |
| .0784 | .07848 | | .00307 | | .07824 | | 12.781 | 16,2 |
| 0.0785 | 0.07858 | 10,0 | 1.00308 | 0,8 | 0.07834 | 9,9 | 12.765 | 16,2 |
| .0786 | .07868 | | .00309 | | .07844 | | 12.749 | 16,2 |
| .0787 | .07878 | | .00310 | | .07854 | | 12.733 | 16,1 |
| .0788 | .07888 | | .00311 | | .07864 | | 12.717 | 16,1 |
| .0789 | .07898 | | .00311 | | .07874 | | 12.701 | 16,0 |
| 0.0790 | 0.07908 | 10,0 | 1.00312 | 0,8 | 0.07884 | 9,9 | 12.685 | 16,0 |
| .0791 | .07918 | | .00313 | | .07894 | | 12.669 | 15,9 |
| .0792 | .07928 | | .00314 | | .07903 | | 12.653 | 15,9 |
| .0793 | .07938 | | .00315 | | .07913 | | 12.637 | 15,9 |
| .0794 | .07948 | | .00315 | | .07923 | | 12.621 | 15,8 |
| 0.0795 | 0.07958 | 10,0 | 1.00316 | 0,8 | 0.07933 | 9,9 | 12.605 | 15,8 |
| .0796 | .07968 | | .00317 | | .07943 | | 12.589 | 15,7 |
| .0797 | .07978 | | .00318 | | .07953 | | 12.574 | 15,7 |
| .0798 | .07988 | | .00319 | | .07963 | | 12.558 | 15,7 |
| .0799 | .07999 | | .00319 | | .07973 | | 12.542 | 15,6 |
| 0.0800 | 0.08009 | 10,0 | 1.00320 | 0,8 | 0.07983 | 9,9 | 12.527 | 15,6 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0800 | 0.08009 | 10,0 | 1.00320 | 0,8 | 0.07983 | 9,9 | 12.527 | 15,6 |
| .0801 | .08019 | | .00321 | | .07993 | | 12.511 | 15,6 |
| .0802 | .08029 | | .00322 | | .08003 | | 12.496 | 15,5 |
| .0803 | .08039 | | .00323 | | .08013 | | 12.480 | 15,5 |
| .0804 | .08049 | | .00323 | | .08023 | | 12.465 | 15,4 |
| 0.0805 | 0.08059 | 10,0 | 1.00324 | 0,8 | 0.08033 | 9,9 | 12.449 | 15,4 |
| .0806 | .08069 | | .00325 | | .08043 | | 12.434 | 15,4 |
| .0807 | .08079 | | .00326 | | .08053 | | 12.418 | 15,3 |
| .0808 | .08089 | | .00327 | | .08062 | | 12.403 | 15,3 |
| .0809 | .08099 | | .00327 | | .08072 | | 12.388 | 15,2 |
| 0.0810 | 0.08109 | 10,0 | 1.00328 | 0,8 | 0.08082 | 9,9 | 12.373 | 15,2 |
| .0811 | .08119 | | .00329 | | .08092 | | 12.357 | 15,2 |
| .0812 | .08129 | | .00330 | | .08102 | | 12.342 | 15,1 |
| .0813 | .08139 | | .00331 | | .08112 | | 12.327 | 15,1 |
| .0814 | .08149 | | .00331 | | .08122 | | 12.312 | 15,1 |
| 0.0815 | 0.08159 | 10,0 | 1.00332 | 0,8 | 0.08132 | 9,9 | 12.297 | 15,0 |
| .0816 | .08169 | | .00333 | | .08142 | | 12.282 | 15,0 |
| .0817 | .08179 | | .00334 | | .08152 | | 12.267 | 14,9 |
| .0818 | .08189 | | .00335 | | .08162 | | 12.252 | 14,9 |
| .0819 | .08199 | | .00336 | | .08172 | | 12.237 | 14,9 |
| 0.0820 | 0.08209 | 10,0 | 1.00336 | 0,8 | 0.08182 | 9,9 | 12.222 | 14,8 |
| .0821 | .08219 | | .00337 | | .08192 | | 12.208 | 14,8 |
| .0822 | .08229 | | .00338 | | .08202 | | 12.193 | 14,8 |
| .0823 | .08239 | | .00339 | | .08211 | | 12.178 | 14,7 |
| .0824 | .08249 | | .00340 | | .08221 | | 12.163 | 14,7 |
| 0.0825 | 0.08259 | 10,0 | 1.00341 | 0,8 | 0.08231 | 9,9 | 12.149 | 14,7 |
| .0826 | .08269 | | .00341 | | .08241 | | 12.134 | 14,6 |
| .0827 | .08279 | | .00342 | | .08251 | | 12.119 | 14,6 |
| .0828 | .08289 | | .00343 | | .08261 | | 12.105 | 14,6 |
| .0829 | .08299 | | .00344 | | .08271 | | 12.090 | 14,5 |
| 0.0830 | 0.08310 | 10,0 | 1.00345 | 0,8 | 0.08281 | 9,9 | 12.076 | 14,5 |
| .0831 | .08320 | | .00345 | | .08291 | | 12.061 | 14,4 |
| .0832 | .08330 | | .00346 | | .08301 | | 12.047 | 14,4 |
| .0833 | .08340 | | .00347 | | .08311 | | 12.033 | 14,4 |
| .0834 | .08350 | | .00348 | | .08321 | | 12.018 | 14,3 |
| 0.0835 | 0.08360 | 10,0 | 1.00349 | 0,8 | 0.08331 | 9,9 | 12.004 | 14,3 |
| .0836 | .08370 | | .00350 | | .08341 | | 11.990 | 14,3 |
| .0837 | .08380 | | .00350 | | .08351 | | 11.975 | 14,2 |
| .0838 | .08390 | | .00351 | | .08360 | | 11.961 | 14,2 |
| .0839 | .08400 | | .00352 | | .08370 | | 11.947 | 14,2 |
| 0.0840 | 0.08410 | 10,0 | 1.00353 | 0,8 | 0.08380 | 9,9 | 11.933 | 14,1 |
| .0841 | .08420 | | .00354 | | .08390 | | 11.919 | 14,1 |
| .0842 | .08430 | | .00355 | | .08400 | | 11.905 | 14,1 |
| .0843 | .08440 | | .00356 | | .08410 | | 11.890 | 14,0 |
| .0844 | .08450 | | .00356 | | .08420 | | 11.876 | 14,0 |
| 0.0845 | 0.08460 | 10,0 | 1.00357 | 0,8 | 0.08430 | 9,9 | 11.862 | 14,0 |
| .0846 | .08470 | | .00358 | | .08440 | | 11.849 | 13,9 |
| .0847 | .08480 | | .00359 | | .08450 | | 11.835 | 13,9 |
| .0848 | .08490 | | .00360 | | .08460 | | 11.821 | 13,9 |
| .0849 | .08500 | | .00361 | 0,9 | .08470 | | 11.807 | 13,8 |
| 0.0850 | 0.08510 | 10,0 | 1.00361 | 0,9 | 0.08480 | 9,9 | 11.793 | 13,8 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0850 | 0.08510 | 10,0 | 1.00361 | 0,9 | 0.08480 | 9,9 | 11.793 | 13,8 |
| .0851 | .08520 | | .00362 | | .08490 | | 11.779 | 13,8 |
| .0852 | .08530 | | .00363 | | .08499 | | 11.765 | 13,7 |
| .0853 | .08540 | | .00364 | | .08509 | | 11.752 | 13,7 |
| .0854 | .08550 | | .00365 | | .08519 | | 11.738 | 13,7 |
| 0.0855 | 0.08560 | 10,0 | 1.00366 | 0,9 | 0.08529 | 9,9 | 11.724 | 13,6 |
| .0856 | .08570 | | .00367 | | .08539 | | 11.711 | 13,6 |
| .0857 | .08580 | | .00367 | | .08549 | | 11.697 | 13,6 |
| .0858 | .08591 | | .00368 | | .08559 | | 11.684 | 13,6 |
| .0859 | .08601 | | .00369 | | .08569 | | 11.670 | 13,5 |
| 0.0860 | 0.08611 | 10,0 | 1.00370 | 0,9 | 0.08579 | 9,9 | 11.657 | 13,5 |
| .0861 | .08621 | | .00371 | | .08589 | | 11.643 | 13,5 |
| .0862 | .08631 | | .00372 | | .08599 | | 11.630 | 13,4 |
| .0863 | .08641 | | .00373 | | .08609 | | 11.616 | 13,4 |
| .0864 | .08651 | | .00373 | | .08619 | | 11.603 | 13,4 |
| 0.0865 | 0.08661 | 10,0 | 1.00374 | 0,9 | 0.08628 | 9,9 | 11.590 | 13,3 |
| .0866 | .08671 | | .00375 | | .08638 | | 11.576 | 13,3 |
| .0867 | .08681 | | .00376 | | .08648 | | 11.563 | 13,3 |
| .0868 | .08691 | | .00377 | | .08658 | | 11.550 | 13,2 |
| .0869 | .08701 | | .00378 | | .08668 | | 11.536 | 13,2 |
| 0.0870 | 0.08711 | 10,0 | 1.00379 | 0,9 | 0.08678 | 9,9 | 11.523 | 13,2 |
| .0871 | .08721 | | .00380 | | .08688 | | 11.510 | 13,1 |
| .0872 | .08731 | | .00380 | | .08698 | | 11.497 | 13,1 |
| .0873 | .08741 | | .00381 | | .08708 | | 11.484 | 13,1 |
| .0874 | .08751 | | .00382 | | .08718 | | 11.471 | 13,1 |
| 0.0875 | 0.08761 | 10,0 | 1.00383 | 0,9 | 0.08728 | 9,9 | 11.458 | 13,0 |
| .0876 | .08771 | | .00384 | | .08738 | | 11.445 | 13,0 |
| .0877 | .08781 | | .00385 | | .08748 | | 11.432 | 13,0 |
| .0878 | .08791 | | .00386 | | .08758 | | 11.419 | 12,9 |
| .0879 | .08801 | | .00387 | | .08767 | | 11.406 | 12,9 |
| 0.0880 | 0.08811 | 10,0 | 1.00387 | 0,9 | 0.08777 | 9,9 | 11.393 | 12,9 |
| .0881 | .08821 | | .00388 | | .08787 | | 11.380 | 12,8 |
| .0882 | .08831 | | .00389 | | .08797 | | 11.367 | 12,8 |
| .0883 | .08841 | | .00390 | | .08807 | | 11.354 | 12,8 |
| .0884 | .08852 | | .00391 | | .08817 | | 11.342 | 12,8 |
| 0.0885 | 0.08862 | 10,0 | 1.00392 | 0,9 | 0.08827 | 9,9 | 11.329 | 12,7 |
| .0886 | .08872 | | .00393 | | .08837 | | 11.316 | 12,7 |
| .0887 | .08882 | | .00394 | | .08847 | | 11.304 | 12,7 |
| .0888 | .08892 | | .00395 | | .08857 | | 11.291 | 12,6 |
| .0889 | .08902 | | .00395 | | .08867 | | 11.278 | 12,6 |
| 0.0890 | 0.08912 | 10,0 | 1.00396 | 0,9 | 0.08877 | 9,9 | 11.266 | 12,6 |
| .0891 | .08922 | | .00397 | | .08886 | | 11.253 | 12,6 |
| .0892 | .08932 | | .00398 | | .08896 | | 11.240 | 12,5 |
| .0893 | .08942 | | .00399 | | .08906 | | 11.228 | 12,5 |
| .0894 | .08952 | | .00400 | | .08916 | | 11.215 | 12,5 |
| 0.0895 | 0.08962 | 10,0 | 1.00401 | 0,9 | 0.08926 | 9,9 | 11.203 | 12,5 |
| .0896 | .08972 | | .00402 | | .08936 | | 11.191 | 12,4 |
| .0897 | .08982 | | .00403 | | .08946 | | 11.178 | 12,4 |
| .0898 | .08992 | | .00403 | | .08956 | | 11.166 | 12,4 |
| .0899 | .09002 | | .00404 | | .08966 | | 11.153 | 12,3 |
| 0.0900 | 0.09012 | 10,0 | 1.00405 | 0,9 | 0.08976 | 9,9 | 11.141 | 12,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0900 | 0.09012 | 10,0 | 1.00405 | 0,9 | 0.08976 | 9,9 | 11.141 | 12,3 |
| .0901 | .09022 | | .00406 | | .08986 | | 11.129 | 12,3 |
| .0902 | .09032 | | .00407 | | .08996 | | 11.117 | 12,3 |
| .0903 | .09042 | | .00408 | | .09006 | | 11.104 | 12,2 |
| .0904 | .09052 | | .00409 | | .09015 | | 11.092 | 12,2 |
| 0.0905 | 0.09062 | 10,0 | 1.00410 | 0,9 | 0.09025 | 9,9 | 11.080 | 12,2 |
| .0906 | .09072 | | .00411 | | .09035 | | 11.068 | 12,1 |
| .0907 | .09082 | | .00412 | | .09045 | | 11.056 | 12,1 |
| .0908 | .09092 | | .00413 | | .09055 | | 11.043 | 12,1 |
| .0909 | .09103 | | .00413 | | .09065 | | 11.031 | 12,1 |
| 0.0910 | 0.09113 | 10,0 | 1.00414 | 0,9 | 0.09075 | 9,9 | 11.019 | 12,0 |
| .0911 | .09123 | | .00415 | | .09085 | | 11.007 | 12,0 |
| .0912 | .09133 | | .00416 | | .09095 | | 10.995 | 12,0 |
| .0913 | .09143 | | .00417 | | .09105 | | 10.983 | 12,0 |
| .0914 | .09153 | | .00418 | | .09115 | | 10.971 | 11,9 |
| 0.0915 | 0.09163 | 10,0 | 1.00419 | 0,9 | 0.09125 | 9,9 | 10.959 | 11,9 |
| .0916 | .09173 | | .00420 | | .09134 | | 10.948 | 11,9 |
| .0917 | .09183 | | .00421 | | .09144 | | 10.936 | 11,9 |
| .0918 | .09193 | | .00422 | | .09154 | | 10.924 | 11,8 |
| .0919 | .09203 | | .00423 | | .09164 | | 10.912 | 11,8 |
| 0.0920 | 0.09213 | 10,0 | 1.00423 | 0,9 | 0.09174 | 9,9 | 10.900 | 11,8 |
| .0921 | .09223 | | .00424 | | .09184 | | 10.888 | 11,8 |
| .0922 | .09233 | | .00425 | | .09194 | | 10.877 | 11,7 |
| .0923 | .09243 | | .00426 | | .09204 | | 10.865 | 11,7 |
| .0924 | .09253 | | .00427 | | .09214 | | 10.853 | 11,7 |
| 0.0925 | 0.09263 | 10,0 | 1.00428 | 0,9 | 0.09224 | 9,9 | 10.842 | 11,7 |
| .0926 | .09273 | | .00429 | | .09234 | | 10.830 | 11,6 |
| .0927 | .09283 | | .00430 | | .09244 | | 10.818 | 11,6 |
| .0928 | .09293 | | .00431 | | .09253 | | 10.807 | 11,6 |
| .0929 | .09303 | | .00432 | | .09263 | | 10.795 | 11,6 |
| 0.0930 | 0.09313 | 10,0 | 1.00433 | 0,9 | 0.09273 | 9,9 | 10.784 | 11,5 |
| .0931 | .09323 | | .00434 | | .09283 | | 10.772 | 11,5 |
| .0932 | .09333 | | .00435 | | .09293 | | 10.761 | 11,5 |
| .0933 | .09344 | | .00436 | | .09303 | | 10.749 | 11,5 |
| .0934 | .09354 | | .00436 | | .09313 | | 10.738 | 11,4 |
| 0.0935 | 0.09364 | 10,0 | 1.00437 | 0,9 | 0.09323 | 9,9 | 10.726 | 11,4 |
| .0936 | .09374 | | .00438 | | .09333 | | 10.715 | 11,4 |
| .0937 | .09384 | | .00439 | | .09343 | | 10.704 | 11,4 |
| .0938 | .09394 | | .00440 | | .09353 | | 10.692 | 11,3 |
| .0939 | .09404 | | .00441 | | .09362 | | 10.681 | 11,3 |
| 0.0940 | 0.09414 | 10,0 | 1.00442 | 0,9 | 0.09372 | 9,9 | 10.670 | 11,3 |
| .0941 | .09424 | | .00443 | | .09382 | | 10.658 | 11,3 |
| .0942 | .09434 | | .00444 | | .09392 | | 10.647 | 11,2 |
| .0943 | .09444 | | .00445 | | .09402 | | 10.636 | 11,2 |
| .0944 | .09454 | | .00446 | | .09412 | | 10.625 | 11,2 |
| 0.0945 | 0.09464 | 10,0 | 1.00447 | 0,9 | 0.09422 | 9,9 | 10.613 | 11,2 |
| .0946 | .09474 | | .00448 | | .09432 | | 10.602 | 11,1 |
| .0947 | .09484 | | .00449 | | .09442 | | 10.591 | 11,1 |
| .0948 | .09494 | | .00450 | 0,9 | .09452 | | 10.580 | 11,1 |
| .0949 | .09504 | | .00451 | 1,0 | .09462 | | 10.569 | 11,1 |
| 0.0950 | 0.09514 | 10,0 | 1.00452 | 1,0 | 0.09472 | 9,9 | 10.558 | 11,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.0950 | 0.09514 | 10,0 | 1.00452 | 1,0 | 0.09472 | 9,9 | 10.558 | 11,0 |
| .0951 | .09524 | | .00453 | | .09481 | | 10.547 | 11,0 |
| .0952 | .09534 | | .00453 | | .09491 | | 10.536 | 11,0 |
| .0953 | .09544 | | .00454 | | .09501 | | 10.525 | 11,0 |
| .0954 | .09554 | | .00455 | | .09511 | | 10.514 | 11,0 |
| 0.0955 | 0.09565 | 10,0 | 1.00456 | 1,0 | 0.09521 | 9,9 | 10.503 | 10,9 |
| .0956 | .09575 | | .00457 | | .09531 | | 10.492 | 10,9 |
| .0957 | .09585 | | .00458 | | .09541 | | 10.481 | 10,9 |
| .0958 | .09595 | | .00459 | | .09551 | | 10.470 | 10,9 |
| .0959 | .09605 | | .00460 | | .09561 | | 10.459 | 10,8 |
| 0.0960 | 0.09615 | 10,0 | 1.00461 | 1,0 | 0.09571 | 9,9 | 10.449 | 10,8 |
| .0961 | .09625 | | .00462 | | .09581 | | 10.438 | 10,8 |
| .0962 | .09635 | | .00463 | | .09590 | | 10.427 | 10,8 |
| .0963 | .09645 | | .00464 | | .09600 | | 10.416 | 10,7 |
| .0964 | .09655 | | .00465 | | .09610 | | 10.406 | 10,7 |
| 0.0965 | 0.09665 | 10,0 | 1.00466 | 1,0 | 0.09620 | 9,9 | 10.395 | 10,7 |
| .0966 | .09675 | | .00467 | | .09630 | | 10.384 | 10,7 |
| .0967 | .09685 | | .00468 | | .09640 | | 10.373 | 10,7 |
| .0968 | .09695 | | .00469 | | .09650 | | 10.363 | 10,6 |
| .0969 | .09705 | | .00470 | | .09660 | | 10.352 | 10,6 |
| 0.0970 | 0.09715 | 10,0 | 1.00471 | 1,0 | 0.09670 | 9,9 | 10.342 | 10,6 |
| .0971 | .09725 | | .00472 | | .09680 | | 10.331 | 10,6 |
| .0972 | .09735 | | .00473 | | .09689 | | 10.320 | 10,6 |
| .0973 | .09745 | | .00474 | | .09699 | | 10.310 | 10,5 |
| .0974 | .09755 | | .00475 | | .09709 | | 10.299 | 10,5 |
| 0.0975 | 0.09765 | 10,0 | 1.00476 | 1,0 | 0.09719 | 9,9 | 10.289 | 10,5 |
| .0976 | .09775 | | .00477 | | .09729 | | 10.278 | 10,5 |
| .0977 | .09785 | | .00478 | | .09739 | | 10.268 | 10,4 |
| .0978 | .09795 | | .00479 | | .09749 | | 10.258 | 10,4 |
| .0979 | .09806 | | .00480 | | .09759 | | 10.247 | 10,4 |
| 0.0980 | 0.09816 | 10,0 | 1.00481 | 1,0 | 0.09769 | 9,9 | 10.237 | 10,4 |
| .0981 | .09826 | | .00482 | | .09779 | | 10.226 | 10,4 |
| .0982 | .09836 | | .00483 | | .09788 | | 10.216 | 10,3 |
| .0983 | .09846 | | .00484 | | .09798 | | 10.206 | 10,3 |
| .0984 | .09856 | | .00485 | | .09808 | | 10.195 | 10,3 |
| 0.0985 | 0.09866 | 10,0 | 1.00486 | 1,0 | 0.09818 | 9,9 | 10.185 | 10,3 |
| .0986 | .09876 | | .00486 | | .09828 | | 10.175 | 10,3 |
| .0987 | .09886 | | .00487 | | .09838 | | 10.165 | 10,2 |
| .0988 | .09896 | | .00488 | | .09848 | | 10.154 | 10,2 |
| .0989 | .09906 | | .00489 | | .09858 | | 10.144 | 10,2 |
| 0.0990 | 0.09916 | 10,0 | 1.00490 | 1,0 | 0.09868 | 9,9 | 10.134 | 10,2 |
| .0991 | .09926 | | .00491 | | .09878 | | 10.124 | 10,1 |
| .0992 | .09936 | | .00492 | | .09888 | | 10.114 | 10,1 |
| .0993 | .09946 | | .00493 | | .09897 | | 10.104 | 10,1 |
| .0994 | .09956 | | .00494 | | .09907 | | 10.093 | 10,1 |
| 0.0995 | 0.09966 | 10,0 | 1.00495 | 1,0 | 0.09917 | 9,9 | 10.083 | 10,1 |
| .0996 | .09976 | | .00496 | | .09927 | | 10.073 | 10,0 |
| .0997 | .09987 | | .00497 | | .09937 | | 10.063 | 10,0 |
| .0998 | .09997 | | .00498 | | .09947 | | 10.053 | 10,0 |
| .0999 | 1.0007 | | .00499 | | .09957 | | 10.043 | 10,0 |
| 0.1000 | 0.10017 | 10,1 | 1.00500 | 1,0 | 0.09967 | 9,9 | 10.033 | 10,0 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.100 | 0.10017 | 100,5 | 1.00500 | 10,0 | 0.09967 | 99,0 | 10.0333 | 996,7 |
| .101 | .10117 | 100,5 | .00510 | 10,1 | .10066 | 99,0 | 9.9346 | 977,0 |
| .102 | .10218 | 100,5 | .00521 | 10,2 | .10165 | 99,0 | .8379 | 957,9 |
| .103 | .10318 | 100,5 | .00531 | 10,3 | .10264 | 98,9 | .7430 | 939,3 |
| .104 | .10419 | 100,5 | .00541 | 10,4 | .10363 | 98,9 | .6500 | 921,2 |
| 0.105 | 0.10519 | 100,6 | 1.00552 | 10,5 | 0.10462 | 98,9 | 9.5588 | 903,7 |
| .106 | .10620 | 100,6 | .00562 | 10,6 | .10560 | 98,9 | .4693 | 886,7 |
| .107 | .10720 | 100,6 | .00573 | 10,7 | .10659 | 98,9 | .3814 | 870,1 |
| .108 | .10821 | 100,6 | .00584 | 10,8 | .10758 | 98,8 | .2952 | 854,0 |
| .109 | .10922 | 100,6 | .00595 | 10,9 | .10857 | 98,8 | .2106 | 838,4 |
| 0.110 | 0.11022 | 100,6 | 1.00606 | 11,0 | 0.10956 | 98,8 | 9.1275 | 823,1 |
| .111 | .11123 | 100,6 | .00617 | 11,1 | .11055 | 98,8 | .0460 | 808,3 |
| .112 | .11223 | 100,6 | .00628 | 11,2 | .11153 | 98,8 | 8.9659 | 793,9 |
| .113 | .11324 | 100,6 | .00639 | 11,3 | .11252 | 98,7 | .8872 | 779,8 |
| .114 | .11425 | 100,7 | .00651 | 11,4 | .11351 | 98,7 | .8099 | 766,1 |
| 0.115 | 0.11525 | 100,7 | 1.00662 | 11,5 | 0.11450 | 98,7 | 8.7340 | 752,8 |
| .116 | .11626 | 100,7 | .00674 | 11,6 | .11548 | 98,7 | .6593 | 739,8 |
| .117 | .11727 | 100,7 | .00685 | 11,7 | .11647 | 98,6 | .5860 | 727,2 |
| .118 | .11827 | 100,7 | .00697 | 11,8 | .11746 | 98,6 | .5139 | 714,9 |
| .119 | .11928 | 100,7 | .00709 | 11,9 | .11844 | 98,6 | .4430 | 702,8 |
| 0.120 | 0.12029 | 100,7 | 1.00721 | 12,0 | 0.11943 | 98,6 | 8.3733 | 691,1 |
| .121 | .12130 | 100,7 | .00733 | 12,1 | .12041 | 98,6 | .3048 | 679,7 |
| .122 | .12230 | 100,7 | .00745 | 12,2 | .12140 | 98,5 | .2373 | 668,5 |
| .123 | .12331 | 100,8 | .00757 | 12,3 | .12238 | 98,5 | .1710 | 657,7 |
| .124 | .12432 | 100,8 | .00770 | 12,4 | .12337 | 98,5 | .1058 | 647,0 |
| 0.125 | 0.12533 | 100,8 | 1.00782 | 12,5 | 0.12435 | 98,5 | 8.0416 | 636,7 |
| .126 | .12633 | 100,8 | .00795 | 12,6 | .12534 | 98,4 | 7.9785 | 626,6 |
| .127 | .12734 | 100,8 | .00808 | 12,7 | .12632 | 98,4 | .9163 | 616,7 |
| .128 | .12835 | 100,8 | .00820 | 12,8 | .12731 | 98,4 | .8551 | 607,0 |
| .129 | .12936 | 100,8 | .00833 | 12,9 | .12829 | 98,4 | .7949 | 597,6 |
| 0.130 | 0.13037 | 100,8 | 1.00846 | 13,0 | 0.12927 | 98,3 | 7.7356 | 588,4 |
| .131 | .13138 | 100,9 | .00859 | 13,1 | .13026 | 98,3 | .6772 | 579,4 |
| .132 | .13238 | 100,9 | .00872 | 13,2 | .13124 | 98,3 | .6197 | 570,6 |
| .133 | .13339 | 100,9 | .00886 | 13,3 | .13222 | 98,3 | .5631 | 562,0 |
| .134 | .13440 | 100,9 | .00899 | 13,4 | .13320 | 98,2 | .5073 | 553,6 |
| 0.135 | 0.13541 | 100,9 | 1.00913 | 13,5 | 0.13419 | 98,2 | 7.4524 | 545,4 |
| .136 | .13642 | 100,9 | .00926 | 13,6 | .13517 | 98,2 | .3982 | 537,3 |
| .137 | .13743 | 100,9 | .00940 | 13,7 | .13615 | 98,1 | .3449 | 529,5 |
| .138 | .13844 | 101,0 | .00954 | 13,8 | .13713 | 98,1 | .2923 | 521,8 |
| .139 | .13945 | 101,0 | .00968 | 13,9 | .13811 | 98,1 | .2405 | 514,3 |
| 0.140 | 0.14046 | 101,0 | 1.00982 | 14,0 | 0.13909 | 98,1 | 7.1895 | 506,9 |
| .141 | .14147 | 101,0 | .00996 | 14,1 | .14007 | 98,0 | .1391 | 499,7 |
| .142 | .14248 | 101,0 | .01010 | 14,2 | .14105 | 98,0 | .0895 | 492,6 |
| .143 | .14349 | 101,0 | .01024 | 14,3 | .14203 | 98,0 | .0406 | 485,7 |
| .144 | .14450 | 101,0 | .01039 | 14,4 | .14301 | 98,0 | 6.9924 | 478,9 |
| 0.145 | 0.14551 | 101,1 | 1.01053 | 14,6 | 0.14399 | 97,9 | 6.9448 | 472,3 |
| .146 | .14652 | 101,1 | .01068 | 14,7 | .14497 | 97,9 | .8979 | 465,8 |
| .147 | .14753 | 101,1 | .01082 | 14,8 | .14595 | 97,9 | .8517 | 459,5 |
| .148 | .14854 | 101,1 | .01097 | 14,9 | .14693 | 97,8 | .8060 | 453,2 |
| .149 | .14955 | 101,1 | .01112 | 15,0 | .14791 | 97,8 | .7610 | 447,1 |
| 0.150 | 0.15056 | 101,1 | 1.01127 | 15,1 | 0.14889 | 97,8 | 6.7166 | 441,1 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | F_0' |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.150 | 0.15056 | 101,1 | 1.01127 | 15,1 | 0.14889 | 97,8 | 6.7166 | 441,1 |
| .151 | .15157 | 101,1 | .01142 | 15,2 | .14986 | 97,8 | .6728 | 435,3 |
| .152 | .15259 | 101,2 | .01157 | 15,3 | .15084 | 97,7 | .6295 | 429,5 |
| .153 | .15360 | 101,2 | .01173 | 15,4 | .15182 | 97,7 | .5869 | 423,9 |
| .154 | .15461 | 101,2 | .01188 | 15,5 | .15279 | 97,7 | .5448 | 418,3 |
| 0.155 | 0.15562 | 101,2 | 1.01204 | 15,6 | 0.15377 | 97,6 | 6.5032 | 412,9 |
| .156 | .15663 | 101,2 | .01219 | 15,7 | .15475 | 97,6 | .4622 | 407,6 |
| .157 | .15765 | 101,2 | .01235 | 15,8 | .15572 | 97,6 | .4217 | 402,4 |
| .158 | .15866 | 101,3 | .01251 | 15,9 | .15670 | 97,5 | .3817 | 397,3 |
| .159 | .15967 | 101,3 | .01267 | 16,0 | .15767 | 97,5 | .3422 | 392,2 |
| 0.160 | 0.16068 | 101,3 | 1.01283 | 16,1 | 0.15865 | 97,5 | 6.3032 | 387,3 |
| .161 | .16170 | 101,3 | .01299 | 16,2 | .15962 | 97,5 | .2648 | 382,5 |
| .162 | .16271 | 101,3 | .01315 | 16,3 | .16060 | 97,4 | .2267 | 377,7 |
| .163 | .16372 | 101,3 | .01331 | 16,4 | .16157 | 97,4 | .1892 | 373,1 |
| .164 | .16474 | 101,3 | .01348 | 16,5 | .16254 | 97,4 | .1521 | 368,5 |
| 0.165 | 0.16575 | 101,4 | 1.01364 | 16,6 | 0.16352 | 97,3 | 6.1155 | 364,0 |
| .166 | .16676 | 101,4 | .01381 | 16,7 | .16449 | 97,3 | .0793 | 359,6 |
| .167 | .16778 | 101,4 | .01398 | 16,8 | .16546 | 97,3 | .0436 | 355,2 |
| .168 | .16879 | 101,4 | .01415 | 16,9 | .16644 | 97,2 | .0083 | 351,0 |
| .169 | .16981 | 101,4 | .01431 | 17,0 | .16741 | 97,2 | 5.9734 | 346,8 |
| 0.170 | 0.17082 | 101,4 | 1.01448 | 17,1 | 0.16838 | 97,2 | 5.9389 | 342,7 |
| .171 | .17183 | 101,5 | .01466 | 17,2 | .16935 | 97,1 | .9048 | 338,7 |
| .172 | .17285 | 101,5 | .01483 | 17,3 | .17032 | 97,1 | .8712 | 334,7 |
| .173 | .17386 | 101,5 | .01500 | 17,4 | .17129 | 97,1 | .8379 | 330,8 |
| .174 | .17488 | 101,5 | .01518 | 17,5 | .17226 | 97,0 | .8050 | 327,0 |
| 0.175 | 0.17589 | 101,5 | 1.01535 | 17,6 | 0.17324 | 97,0 | 5.7725 | 323,2 |
| .176 | .17691 | 101,6 | .01553 | 17,7 | .17420 | 97,0 | .7404 | 319,5 |
| .177 | .17793 | 101,6 | .01571 | 17,8 | .17517 | 96,9 | .7086 | 315,9 |
| .178 | .17894 | 101,6 | .01588 | 17,9 | .17614 | 96,9 | .6772 | 312,3 |
| .179 | .17996 | 101,6 | .01606 | 18,0 | .17711 | 96,9 | .6461 | 308,8 |
| 0.180 | 0.18097 | 101,6 | 1.01624 | 18,1 | 0.17808 | 96,8 | 5.6154 | 305,3 |
| .181 | .18199 | 101,6 | .01643 | 18,2 | .17905 | 96,8 | .5851 | 301,9 |
| .182 | .18301 | 101,7 | .01661 | 18,3 | .18002 | 96,8 | .5550 | 298,6 |
| .183 | .18402 | 101,7 | .01679 | 18,4 | .18098 | 96,7 | .5253 | 295,3 |
| .184 | .18504 | 101,7 | .01698 | 18,5 | .18195 | 96,7 | .4960 | 292,1 |
| 0.185 | 0.18606 | 101,7 | 1.01716 | 18,6 | 0.18292 | 96,7 | 5.4669 | 288,9 |
| .186 | .18707 | 101,7 | .01735 | 18,7 | .18388 | 96,6 | .4382 | 285,8 |
| .187 | .18809 | 101,8 | .01754 | 18,8 | .18485 | 96,6 | .4098 | 282,7 |
| .188 | .18911 | 101,8 | .01772 | 18,9 | .18582 | 96,5 | .3817 | 279,6 |
| .189 | .19013 | 101,8 | .01791 | 19,0 | .18678 | 96,5 | .3539 | 276,6 |
| 0.190 | 0.19115 | 101,8 | 1.01810 | 19,1 | 0.18775 | 96,5 | 5.3263 | 273,7 |
| .191 | .19216 | 101,8 | .01830 | 19,2 | .18871 | 96,4 | .2991 | 270,8 |
| .192 | .19318 | 101,8 | .01849 | 19,3 | .18967 | 96,4 | .2722 | 268,0 |
| .193 | .19420 | 101,9 | .01868 | 19,4 | .19064 | 96,4 | .2455 | 265,2 |
| .194 | .19522 | 101,9 | .01888 | 19,5 | .19160 | 96,3 | .2191 | 262,4 |
| 0.195 | 0.19624 | 101,9 | 1.01907 | 19,6 | 0.19257 | 96,3 | 5.1930 | 259,7 |
| .196 | .19726 | 101,9 | .01927 | 19,7 | .19353 | 96,3 | .1672 | 257,0 |
| .197 | .19828 | 101,9 | .01947 | 19,8 | .19449 | 96,2 | .1416 | 254,4 |
| .198 | .19930 | 102,0 | .01967 | 19,9 | .19545 | 96,2 | .1163 | 251,8 |
| .199 | .20032 | 102,0 | .01987 | 20,0 | .19641 | 96,1 | .0913 | 249,2 |
| 0.200 | 0.20134 | 102,0 | 1.02007 | 20,1 | 0.19738 | 96,1 | 5.0665 | 246,7 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.200 | 0.20134 | 102,0 | 1.02007 | 20,1 | 0.19738 | 96,1 | 5.0665 | 246,7 |
| .201 | .20236 | 102,0 | .02027 | 20,2 | .19834 | 96,1 | .0419 | 244,2 |
| .202 | .20338 | 102,0 | .02047 | 20,3 | .19930 | 96,0 | .0176 | 241,8 |
| .203 | .20440 | 102,1 | .02068 | 20,4 | .20026 | 96,0 | 4.9936 | 239,4 |
| .204 | .20542 | 102,1 | .02088 | 20,5 | .20122 | 96,0 | .9698 | 237,0 |
| 0.205 | 0.20644 | 102,1 | 1.02109 | 20,6 | 0.20218 | 95,9 | 4.9462 | 234,6 |
| .206 | .20746 | 102,1 | .02129 | 20,7 | .20313 | 95,9 | .9228 | 232,3 |
| .207 | .20848 | 102,2 | .02150 | 20,8 | .20409 | 95,8 | .8997 | 230,1 |
| .208 | .20950 | 102,2 | .02171 | 21,0 | .20505 | 95,8 | .8768 | 227,8 |
| .209 | .21052 | 102,2 | .02192 | 21,1 | .20601 | 95,8 | .8542 | 225,6 |
| 0.210 | 0.21155 | 102,2 | 1.02213 | 21,2 | 0.20697 | 95,7 | 4.8317 | 223,5 |
| .211 | .21257 | 102,2 | .02234 | 21,3 | .20792 | 95,7 | .8095 | 221,3 |
| .212 | .21359 | 102,3 | .02256 | 21,4 | .20888 | 95,6 | .7874 | 219,2 |
| .213 | .21461 | 102,3 | .02277 | 21,5 | .20984 | 95,6 | .7656 | 217,1 |
| .214 | .21564 | 102,3 | .02299 | 21,6 | .21079 | 95,6 | .7440 | 215,1 |
| 0.215 | 0.21666 | 102,3 | 1.02320 | 21,7 | 0.21175 | 95,5 | 4.7226 | 213,0 |
| .216 | .21768 | 102,3 | .02342 | 21,8 | .21270 | 95,5 | .7014 | 211,0 |
| .217 | .21871 | 102,4 | .02364 | 21,9 | .21366 | 95,4 | .6804 | 209,1 |
| .218 | .21973 | 102,4 | .02386 | 22,0 | .21461 | 95,4 | .6596 | 207,1 |
| .219 | .22075 | 102,4 | .02408 | 22,1 | .21556 | 95,4 | .6390 | 205,2 |
| 0.220 | 0.22178 | 102,4 | 1.02430 | 22,2 | 0.21652 | 95,3 | 4.6186 | 203,3 |
| .221 | .22280 | 102,5 | .02452 | 22,3 | .21747 | 95,3 | .5983 | 201,4 |
| .222 | .22383 | 102,5 | .02474 | 22,4 | .21842 | 95,2 | .5783 | 199,6 |
| .223 | .22485 | 102,5 | .02497 | 22,5 | .21938 | 95,2 | .5584 | 197,8 |
| .224 | .22588 | 102,5 | .02519 | 22,6 | .22033 | 95,1 | .5387 | 196,0 |
| 0.225 | 0.22690 | 102,5 | 1.02542 | 22,7 | 0.22128 | 95,1 | 4.5192 | 194,2 |
| .226 | .22793 | 102,6 | .02565 | 22,8 | .22223 | 95,1 | .4999 | 192,5 |
| .227 | .22895 | 102,6 | .02588 | 22,9 | .22318 | 95,0 | .4807 | 190,8 |
| .228 | .22998 | 102,6 | .02610 | 23,0 | .22413 | 95,0 | .4617 | 189,1 |
| .229 | .23101 | 102,6 | .02634 | 23,1 | .22508 | 94,9 | .4429 | 187,4 |
| 0.230 | 0.23203 | 102,7 | 1.02657 | 23,2 | 0.22603 | 94,0 | 4.4242 | 185,7 |
| .231 | .23306 | 102,7 | .02680 | 23,3 | .22698 | 94,8 | .4057 | 184,1 |
| .232 | .23409 | 102,7 | .02703 | 23,4 | .22793 | 94,8 | .3874 | 182,5 |
| .233 | .23511 | 102,7 | .02727 | 23,5 | .22887 | 94,8 | .3692 | 180,9 |
| .234 | .23614 | 102,8 | .02750 | 23,6 | .22982 | 94,7 | .3512 | 179,3 |
| 0.235 | 0.23717 | 102,8 | 1.02774 | 23,7 | 0.23077 | 94,7 | 4.3334 | 177,8 |
| .236 | .23820 | 102,8 | .02798 | 23,8 | .23171 | 94,6 | .3157 | 176,2 |
| .237 | .23922 | 102,8 | .02822 | 23,9 | .23266 | 94,6 | .2981 | 174,7 |
| .238 | .24025 | 102,8 | .02846 | 24,0 | .23361 | 94,5 | .2807 | 173,2 |
| .239 | .24128 | 102,9 | .02870 | 24,1 | .23455 | 94,5 | .2635 | 171,8 |
| 0.240 | 0.24231 | 102,9 | 1.02894 | 24,2 | 0.23550 | 94,5 | 4.2464 | 170,3 |
| .241 | .24334 | 102,9 | .02918 | 24,3 | .23644 | 94,4 | .2294 | 168,9 |
| .242 | .24437 | 102,9 | .02943 | 24,4 | .23738 | 94,4 | .2126 | 167,5 |
| .243 | .24540 | 103,0 | .02967 | 24,5 | .23833 | 94,3 | .1959 | 166,1 |
| .244 | .24643 | 103,0 | .02992 | 24,6 | .23927 | 94,3 | .1794 | 164,7 |
| 0.245 | 0.24746 | 103,0 | 1.03016 | 24,7 | 0.24021 | 94,2 | 4.1630 | 163,3 |
| .246 | .24849 | 103,0 | .03041 | 24,8 | .24115 | 94,2 | .1467 | 162,0 |
| .247 | .24952 | 103,1 | .03066 | 25,0 | .24210 | 94,1 | .1306 | 160,6 |
| .248 | .25055 | 103,1 | .03091 | 25,1 | .24304 | 94,1 | .1146 | 159,3 |
| .249 | .25158 | 103,1 | .03116 | 25,2 | .24398 | 94,0 | .0987 | 158,0 |
| 0.250 | 0.25261 | 103,1 | 1.03141 | 25,3 | 0.24492 | 94,0 | 4.0830 | 156,7 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.250 | 0.25261 | 103,1 | 1.03141 | 25,3 | 0.24492 | 94,0 | 4.0830 | 156, |
| .251 | .25364 | 103,2 | .03167 | 25,4 | .24586 | 94,0 | .0674 | 155, |
| .252 | .25468 | 103,2 | .03192 | 25,5 | .24680 | 93,9 | .0519 | 154, |
| .253 | .25571 | 103,2 | .03218 | 25,6 | .24774 | 93,9 | .0365 | 152, |
| .254 | .25674 | 103,2 | .03243 | 25,7 | .24867 | 93,8 | .0213 | 151, |
| 0.255 | 0.25777 | 103,3 | 1.03269 | 25,8 | 0.24961 | 93,8 | 4.0062 | 150, |
| .256 | .25881 | 103,3 | .03295 | 25,9 | .25055 | 93,7 | 3.9912 | 149, |
| .257 | .25984 | 103,3 | .03321 | 26,0 | .25149 | 93,7 | .9763 | 148, |
| .258 | .26087 | 103,3 | .03347 | 26,1 | .25242 | 93,6 | .9616 | 146, |
| .259 | .26191 | 103,4 | .03373 | 26,2 | .25336 | 93,6 | .9470 | 145, |
| 0.260 | 0.26294 | 103,4 | 1.03399 | 26,3 | 0.25430 | 93,5 | 3.9324 | 144, |
| .261 | .26397 | 103,4 | .03425 | 26,4 | .25523 | 93,5 | .9180 | 143, |
| .262 | .26501 | 103,5 | .03452 | 26,5 | .25617 | 93,4 | .9037 | 142, |
| .263 | .26604 | 103,5 | .03478 | 26,6 | .25710 | 93,4 | .8895 | 141, |
| .264 | .26708 | 103,5 | .03505 | 26,7 | .25803 | 93,3 | .8755 | 140, |
| 0.265 | 0.26811 | 103,5 | 1.03532 | 26,8 | 0.25897 | 93,3 | 3.8615 | 139, |
| .266 | .26915 | 103,6 | .03559 | 26,9 | .25990 | 93,2 | .8476 | 138, |
| .267 | .27018 | 103,6 | .03586 | 27,0 | .26083 | 93,2 | .8339 | 137, |
| .268 | .27122 | 103,6 | .03613 | 27,1 | .26176 | 93,1 | .8203 | 135, |
| .269 | .27226 | 103,6 | .03640 | 27,2 | .26269 | 93,1 | .8067 | 134, |
| 0.270 | 0.27329 | 103,7 | 1.03667 | 27,3 | 0.26362 | 93,1 | 3.7933 | 133, |
| .271 | .27433 | 103,7 | .03695 | 27,4 | .26456 | 93,0 | .7799 | 132, |
| .272 | .27537 | 103,7 | .03722 | 27,5 | .26548 | 93,0 | .7667 | 131, |
| .273 | .27640 | 103,7 | .03750 | 27,6 | .26641 | 92,9 | .7536 | 130, |
| .274 | .27744 | 103,8 | .03777 | 27,7 | .26734 | 92,9 | .7405 | 129, |
| 0.275 | 0.27848 | 103,8 | 1.03805 | 27,8 | 0.26827 | 92,8 | 3.7276 | 128, |
| .276 | .27952 | 103,8 | .03833 | 28,0 | .26920 | 92,8 | .7147 | 128, |
| .277 | .28056 | 103,9 | .03861 | 28,1 | .27013 | 92,7 | .7020 | 127, |
| .278 | .28159 | 103,9 | .03889 | 28,2 | .27105 | 92,7 | .6893 | 126, |
| .279 | .28263 | 103,9 | .03917 | 28,3 | .27198 | 92,6 | .6768 | 125, |
| 0.280 | 0.28367 | 103,9 | 1.03946 | 28,4 | 0.27291 | 92,6 | 3.6643 | 124, |
| .281 | .28471 | 104,0 | .03974 | 28,5 | .27383 | 92,5 | .6519 | 123, |
| .282 | .28575 | 104,0 | .04003 | 28,6 | .27476 | 92,5 | .6396 | 122, |
| .283 | .28679 | 104,0 | .04031 | 28,7 | .27568 | 92,4 | .6274 | 121, |
| .284 | .28783 | 104,1 | .04060 | 28,8 | .27660 | 92,4 | .6153 | 120, |
| 0.285 | 0.28887 | 104,1 | 1.04089 | 28,9 | 0.27753 | 92,3 | 3.6033 | 119, |
| .286 | .28991 | 104,1 | .04118 | 29,0 | .27845 | 92,2 | .5913 | 119, |
| .287 | .29096 | 104,1 | .04147 | 29,1 | .27937 | 92,2 | .5795 | 118, |
| .288 | .29200 | 104,2 | .04176 | 29,2 | .28029 | 92,1 | .5677 | 117, |
| .289 | .29304 | 104,2 | .04205 | 29,3 | .28121 | 92,1 | .5560 | 116, |
| 0.290 | 0.29408 | 104,2 | 1.04235 | 29,4 | 0.28213 | 92,0 | 3.5444 | 115, |
| .291 | .29512 | 104,3 | .04264 | 29,5 | .28305 | 92,0 | .5329 | 114, |
| .292 | .29617 | 104,3 | .04294 | 29,6 | .28397 | 91,9 | .5214 | 114, |
| .293 | .29721 | 104,3 | .04323 | 29,7 | .28489 | 91,9 | .5101 | 113, |
| .294 | .29825 | 104,4 | .04353 | 29,8 | .28581 | 91,8 | .4988 | 112, |
| 0.295 | 0.29930 | 104,4 | 1.04383 | 29,9 | 0.28673 | 91,8 | 3.4876 | 111, |
| .296 | .30034 | 104,4 | .04413 | 30,0 | .28765 | 91,7 | .4765 | 110, |
| .297 | .30139 | 104,4 | .04443 | 30,1 | .28856 | 91,7 | .4654 | 110, |
| .298 | .30243 | 104,5 | .04473 | 30,2 | .28948 | 91,6 | .4545 | 109, |
| .299 | .30348 | 104,5 | .04503 | 30,3 | .29040 | 91,6 | .4436 | 108, |
| 0.300 | 0.30452 | 104,5 | 1.04534 | 30,5 | 0.29131 | 91,5 | 3.4327 | 107, |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.300 | 0.30452 | 104,5 | 1.04534 | 30,5 | 0.29131 | 91,5 | 3.4327 | 107,8 |
| .301 | .30557 | 104,6 | .04564 | 30,6 | .29223 | 91,5 | .4220 | 107,1 |
| .302 | .30661 | 104,6 | .04595 | 30,7 | .29314 | 91,4 | .4113 | 106,4 |
| .303 | .30766 | 104,6 | .04626 | 30,8 | .29406 | 91,4 | .4007 | 105,6 |
| .304 | .30870 | 104,7 | .04656 | 30,9 | .29497 | 91,3 | .3902 | 104,9 |
| 0.305 | 0.30975 | 104,7 | 1.04687 | 31,0 | 0.29588 | 91,2 | 3.3797 | 104,2 |
| .306 | .31080 | 104,7 | .04718 | 31,1 | .29679 | 91,2 | .3693 | 103,5 |
| .307 | .31185 | 104,7 | .04750 | 31,2 | .29771 | 91,1 | .3590 | 102,8 |
| .308 | .31289 | 104,8 | .04781 | 31,3 | .29862 | 91,1 | .3488 | 102,1 |
| .309 | .31394 | 104,8 | .04812 | 31,4 | .29953 | 91,0 | .3386 | 101,5 |
| 0.310 | 0.31499 | 104,8 | 1.04844 | 31,5 | 0.30044 | 91,0 | 3.3285 | 100,8 |
| .311 | .31604 | 104,9 | .04875 | 31,6 | .30135 | 90,9 | .3184 | 100,1 |
| .312 | .31709 | 104,9 | .04907 | 31,7 | .30226 | 90,9 | .3085 | 99,5 |
| .313 | .31814 | 104,9 | .04939 | 31,8 | .30316 | 90,8 | .2985 | 98,8 |
| .314 | .31919 | 105,0 | .04970 | 31,9 | .30407 | 90,8 | .2887 | 98,2 |
| 0.315 | 0.32024 | 105,0 | 1.05002 | 32,0 | 0.30498 | 90,7 | 3.2789 | 97,5 |
| .316 | .32129 | 105,0 | .05034 | 32,1 | .30589 | 90,6 | .2692 | 96,9 |
| .317 | .32234 | 105,1 | .05067 | 32,2 | .30679 | 90,6 | .2595 | 96,2 |
| .318 | .32339 | 105,1 | .05099 | 32,3 | .30770 | 90,5 | .2499 | 95,6 |
| .319 | .32444 | 105,1 | .05131 | 32,4 | .30860 | 90,5 | .2404 | 95,0 |
| 0.320 | 0.32549 | 105,2 | 1.05164 | 32,5 | 0.30951 | 90,4 | 3.2309 | 94,4 |
| .321 | .32654 | 105,2 | .05196 | 32,7 | .31041 | 90,4 | .2215 | 93,8 |
| .322 | .32759 | 105,2 | .05229 | 32,8 | .31131 | 90,3 | .2122 | 93,2 |
| .323 | .32865 | 105,3 | .05262 | 32,9 | .31222 | 90,3 | .2029 | 92,6 |
| .324 | .32970 | 105,3 | .05295 | 33,0 | .31312 | 90,2 | .1937 | 92,0 |
| 0.325 | 0.33075 | 105,3 | 1.05328 | 33,1 | 0.31402 | 90,1 | 3.1845 | 91,4 |
| .326 | .33181 | 105,4 | .05361 | 33,2 | .31492 | 90,1 | .1754 | 90,8 |
| .327 | .33286 | 105,4 | .05394 | 33,3 | .31582 | 90,0 | .1663 | 90,3 |
| .328 | .33391 | 105,4 | .05428 | 33,4 | .31672 | 90,0 | .1573 | 89,7 |
| .329 | .33497 | 105,5 | .05461 | 33,5 | .31762 | 89,9 | .1484 | 89,1 |
| 0.330 | 0.33602 | 105,5 | 1.05495 | 33,6 | 0.31852 | 89,9 | 3.1395 | 88,6 |
| .331 | .33708 | 105,5 | .05528 | 33,7 | .31942 | 89,8 | .1307 | 88,0 |
| .332 | .33813 | 105,6 | .05562 | 33,8 | .32032 | 89,7 | .1219 | 87,5 |
| .333 | .33919 | 105,6 | .05596 | 33,9 | .32121 | 89,7 | .1132 | 86,9 |
| .334 | .34024 | 105,6 | .05630 | 34,0 | .32211 | 89,6 | .1045 | 86,4 |
| 0.335 | 0.34130 | 105,7 | 1.05664 | 34,1 | 0.32301 | 89,6 | 3.0959 | 85,8 |
| .336 | .34236 | 105,7 | .05698 | 34,2 | .32390 | 89,5 | .0874 | 85,3 |
| .337 | .34342 | 105,7 | .05732 | 34,3 | .32480 | 89,5 | .0789 | 84,8 |
| .338 | .34447 | 105,8 | .05767 | 34,4 | .32569 | 89,4 | .0704 | 84,3 |
| .339 | .34553 | 105,8 | .05801 | 34,6 | .32658 | 89,3 | .0620 | 83,8 |
| 0.340 | 0.34659 | 105,8 | 1.05836 | 34,7 | 0.32748 | 89,3 | 3.0536 | 83,2 |
| .341 | .34765 | 105,9 | .05871 | 34,8 | .32837 | 89,2 | .0453 | 82,7 |
| .342 | .34871 | 105,9 | .05905 | 34,9 | .32926 | 89,2 | .0371 | 82,2 |
| .343 | .34977 | 105,9 | .05940 | 35,0 | .33015 | 89,1 | .0289 | 81,7 |
| .344 | .35082 | 106,0 | .05975 | 35,1 | .33104 | 89,0 | .0207 | 81,2 |
| 0.345 | 0.35188 | 106,0 | 1.06011 | 35,2 | 0.33193 | 89,0 | 3.0126 | 80,8 |
| .346 | .35295 | 106,0 | .06046 | 35,3 | .33282 | 88,9 | .0046 | 80,3 |
| .347 | .35401 | 106,1 | .06081 | 35,4 | .33371 | 88,9 | .2.9966 | 79,8 |
| .348 | .35507 | 106,1 | .06117 | 35,5 | .33460 | 88,8 | .9886 | 79,3 |
| .349 | .35613 | 106,2 | .06152 | 35,6 | .33549 | 88,7 | .9807 | 78,8 |
| 0.350 | 0.35719 | 106,2 | 1.06188 | 35,7 | 0.33638 | 88,7 | 2.9729 | 78,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.350 | 0.35719 | 106,2 | 1.06188 | 35,7 | 0.33638 | 88,7 | 2.9729 | 78,4 |
| .351 | .35825 | 106,2 | .06224 | 35,8 | .33726 | 88,6 | .9651 | 77,9 |
| .352 | .35931 | 106,3 | .06259 | 35,9 | .33815 | 88,6 | .9573 | 77,5 |
| .353 | .36038 | 106,3 | .06295 | 36,0 | .33903 | 88,5 | .9496 | 77,0 |
| .354 | .36144 | 106,3 | .06332 | 36,1 | .33992 | 88,4 | .9419 | 76,5 |
| 0.355 | 0.36250 | 106,4 | 1.06368 | 36,3 | 0.34080 | 88,4 | 2.9343 | 76,1 |
| .356 | .36357 | 106,4 | .06404 | 36,4 | .34169 | 88,3 | .9267 | 75,7 |
| .357 | .36463 | 106,4 | .06440 | 36,5 | .34257 | 88,3 | .9191 | 75,2 |
| .358 | .36570 | 106,5 | .06477 | 36,6 | .34345 | 88,2 | .9116 | 74,8 |
| .359 | .36676 | 106,5 | .06514 | 36,7 | .34433 | 88,1 | .9042 | 74,3 |
| 0.360 | 0.36783 | 106,6 | 1.06550 | 36,8 | 0.34521 | 88,1 | 2.8968 | 73,9 |
| .361 | .36889 | 106,6 | .06587 | 36,9 | .34609 | 88,0 | .8894 | 73,5 |
| .362 | .36996 | 106,6 | .06624 | 37,0 | .34697 | 88,0 | .8821 | 73,1 |
| .363 | .37102 | 106,7 | .06661 | 37,1 | .34785 | 87,9 | .8748 | 72,6 |
| .364 | .37209 | 106,7 | .06698 | 37,2 | .34873 | 87,8 | .8675 | 72,2 |
| 0.365 | 0.37316 | 106,7 | 1.06736 | 37,3 | 0.34961 | 87,8 | 2.8603 | 71,8 |
| .366 | .37423 | 106,8 | .06773 | 37,4 | .35049 | 87,7 | .8532 | 71,4 |
| .367 | .37529 | 106,8 | .06810 | 37,5 | .35136 | 87,7 | .8460 | 71,0 |
| .368 | .37636 | 106,8 | .06848 | 37,6 | .35224 | 87,6 | .8390 | 70,6 |
| .369 | .37743 | 106,9 | .06886 | 37,7 | .35312 | 87,5 | .8319 | 70,2 |
| 0.370 | 0.37850 | 106,9 | 1.06923 | 37,9 | 0.35399 | 87,5 | 2.8249 | 69,8 |
| .371 | .37957 | 107,0 | .06961 | 38,0 | .35487 | 87,4 | .8180 | 69,4 |
| .372 | .38064 | 107,0 | .06999 | 38,1 | .35574 | 87,3 | .8110 | 69,0 |
| .373 | .38171 | 107,0 | .07037 | 38,2 | .35661 | 87,3 | .8042 | 68,6 |
| .374 | .38278 | 107,1 | .07076 | 38,3 | .35749 | 87,2 | .7973 | 68,2 |
| 0.375 | 0.38385 | 107,1 | 1.07114 | 38,4 | 0.35836 | 87,2 | 2.7905 | 67,9 |
| .376 | .38492 | 107,2 | .07152 | 38,5 | .35923 | 87,1 | .7837 | 67,5 |
| .377 | .38599 | 107,2 | .07191 | 38,6 | .36010 | 87,0 | .7770 | 67,1 |
| .378 | .38707 | 107,2 | .07230 | 38,7 | .36097 | 87,0 | .7703 | 66,7 |
| .379 | .38814 | 107,3 | .07268 | 38,8 | .36184 | 86,9 | .7637 | 66,4 |
| 0.380 | 0.38921 | 107,3 | 1.07307 | 38,9 | 0.36271 | 86,8 | 2.7570 | 66,0 |
| .381 | .39028 | 107,3 | .07346 | 39,0 | .36358 | 86,8 | .7505 | 65,7 |
| .382 | .39136 | 107,4 | .07385 | 39,1 | .36444 | 86,7 | .7439 | 65,3 |
| .383 | .39243 | 107,4 | .07425 | 39,2 | .36531 | 86,7 | .7374 | 64,9 |
| .384 | .39351 | 107,5 | .07464 | 39,4 | .36618 | 86,6 | .7309 | 64,6 |
| 0.385 | 0.39458 | 107,5 | 1.07503 | 39,5 | 0.36704 | 86,5 | 2.7245 | 64,2 |
| .386 | .39566 | 107,5 | .07543 | 39,6 | .36791 | 86,5 | .7181 | 63,9 |
| .387 | .39673 | 107,6 | .07582 | 39,7 | .36877 | 86,4 | .7117 | 63,5 |
| .388 | .39781 | 107,6 | .07622 | 39,8 | .36963 | 86,3 | .7054 | 63,2 |
| .389 | .39889 | 107,7 | .07662 | 39,9 | .37050 | 86,3 | .6991 | 62,8 |
| 0.390 | 0.39996 | 107,7 | 1.07702 | 40,0 | 0.37136 | 86,2 | 2.6928 | 62,5 |
| .391 | .40104 | 107,7 | .07742 | 40,1 | .37222 | 86,1 | .6866 | 62,2 |
| .392 | .40212 | 107,8 | .07782 | 40,2 | .37308 | 86,1 | .6804 | 61,8 |
| .393 | .40319 | 107,8 | .07822 | 40,3 | .37394 | 86,0 | .6742 | 61,5 |
| .394 | .40427 | 107,9 | .07863 | 40,4 | .37480 | 86,0 | .6681 | 61,2 |
| 0.395 | 0.40535 | 107,9 | 1.07903 | 40,5 | 0.37566 | 85,9 | 2.6620 | 60,9 |
| .396 | .40643 | 107,9 | .07944 | 40,6 | .37652 | 85,8 | .6559 | 60,5 |
| .397 | .40751 | 108,0 | .07984 | 40,8 | .37738 | 85,8 | .6499 | 60,2 |
| .398 | .40859 | 108,0 | .08025 | 40,9 | .37824 | 85,7 | .6438 | 59,9 |
| .399 | .40967 | 108,1 | .08066 | 41,0 | .37909 | 85,6 | .6379 | 59,6 |
| 0.400 | 0.41075 | 108,1 | 1.08107 | 41,1 | 0.37995 | 85,6 | 2.6319 | 59,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.400 | 0.41075 | 108,1 | 1.08107 | 41,1 | 0.37995 | 85,6 | 2.6319 | 59,3 |
| .401 | .41183 | 108,1 | .08148 | 41,2 | .38080 | 85,5 | .6260 | 59,0 |
| .402 | .41292 | 108,2 | .08190 | 41,3 | .38166 | 85,4 | .6201 | 58,7 |
| .403 | .41400 | 108,2 | .08231 | 41,4 | .38251 | 85,4 | .6143 | 58,3 |
| .404 | .41508 | 108,3 | .08272 | 41,5 | .38337 | 85,3 | .6085 | 58,0 |
| 0.405 | 0.41616 | 108,3 | 1.08314 | 41,6 | 0.38422 | 85,2 | 2.6027 | 57,7 |
| .406 | .41725 | 108,4 | .08356 | 41,7 | .38507 | 85,2 | .5969 | 57,4 |
| .407 | .41833 | 108,4 | .08397 | 41,8 | .38592 | 85,1 | .5912 | 57,1 |
| .408 | .41941 | 108,4 | .08439 | 41,9 | .38677 | 85,0 | .5855 | 56,8 |
| .409 | .42050 | 108,5 | .08481 | 42,0 | .38762 | 85,0 | .5798 | 56,6 |
| 0.410 | 0.42158 | 108,5 | 1.08523 | 42,2 | 0.38847 | 84,9 | 2.5742 | 56,3 |
| .411 | .42267 | 108,6 | .08566 | 42,3 | .38932 | 84,8 | .5686 | 56,0 |
| .412 | .42376 | 108,6 | .08608 | 42,4 | .39017 | 84,8 | .5630 | 55,7 |
| .413 | .42484 | 108,7 | .08650 | 42,5 | .39102 | 84,7 | .5574 | 55,4 |
| .414 | .42593 | 108,7 | .08693 | 42,6 | .39186 | 84,6 | .5519 | 55,1 |
| 0.415 | 0.42702 | 108,7 | 1.08736 | 42,7 | 0.39271 | 84,6 | 2.5464 | 54,8 |
| .416 | .42810 | 108,8 | .08778 | 42,8 | .39356 | 84,5 | .5409 | 54,6 |
| .417 | .42919 | 108,8 | .08821 | 42,9 | .39440 | 84,4 | .5355 | 54,3 |
| .418 | .43028 | 108,9 | .08864 | 43,0 | .39524 | 84,4 | .5301 | 54,0 |
| .419 | .43137 | 108,9 | .08907 | 43,1 | .39609 | 84,3 | .5247 | 53,7 |
| 0.420 | 0.43246 | 109,0 | 1.08950 | 43,2 | 0.39693 | 84,2 | 2.5193 | 53,5 |
| .421 | .43355 | 109,0 | .08994 | 43,4 | .39777 | 84,2 | .5140 | 53,2 |
| .422 | .43464 | 109,0 | .09037 | 43,5 | .39861 | 84,1 | .5087 | 52,9 |
| .423 | .43573 | 109,1 | .09081 | 43,6 | .39945 | 84,0 | .5034 | 52,7 |
| .424 | .43682 | 109,1 | .09124 | 43,7 | .40029 | 84,0 | .4982 | 52,4 |
| 0.425 | 0.43791 | 109,2 | 1.09168 | 43,8 | 0.40113 | 83,9 | 2.4929 | 52,2 |
| .426 | .43900 | 109,2 | .09212 | 43,9 | .40197 | 83,8 | .4877 | 51,9 |
| .427 | .44009 | 109,3 | .09256 | 44,0 | .40281 | 83,8 | .4826 | 51,6 |
| .428 | .44119 | 109,3 | .09300 | 44,1 | .40365 | 83,7 | .4774 | 51,4 |
| .429 | .44228 | 109,3 | .09344 | 44,2 | .40449 | 83,6 | .4723 | 51,1 |
| 0.430 | 0.44337 | 109,4 | 1.09388 | 44,3 | 0.40532 | 83,6 | 2.4672 | 50,9 |
| .431 | .44447 | 109,4 | .09433 | 44,4 | .40616 | 83,5 | .4621 | 50,6 |
| .432 | .44556 | 109,5 | .09477 | 44,6 | .40699 | 83,4 | .4571 | 50,4 |
| .433 | .44666 | 109,5 | .09522 | 44,7 | .40783 | 83,4 | .4520 | 50,1 |
| .434 | .44775 | 109,6 | .09567 | 44,8 | .40866 | 83,3 | .4470 | 49,9 |
| 0.435 | 0.44885 | 109,6 | 1.09611 | 44,9 | 0.40949 | 83,2 | 2.4421 | 49,6 |
| .436 | .44995 | 109,7 | .09656 | 45,0 | .41032 | 83,2 | .4371 | 49,4 |
| .437 | .45104 | 109,7 | .09701 | 45,1 | .41115 | 83,1 | .4322 | 49,2 |
| .438 | .45214 | 109,7 | .09747 | 45,2 | .41199 | 83,0 | .4273 | 48,9 |
| .439 | .45324 | 109,8 | .09792 | 45,3 | .41282 | 83,0 | .4224 | 48,7 |
| 0.440 | 0.45434 | 109,8 | 1.09837 | 45,4 | 0.41364 | 82,9 | 2.4175 | 48,4 |
| .441 | .45543 | 109,9 | .09883 | 45,5 | .41447 | 82,8 | .4127 | 48,2 |
| .442 | .45653 | 109,9 | .09928 | 45,7 | .41530 | 82,8 | .4079 | 48,0 |
| .443 | .45763 | 110,0 | .09974 | 45,8 | .41613 | 82,7 | .4031 | 47,7 |
| .444 | .45873 | 110,0 | .10020 | 45,9 | .41695 | 82,6 | .3983 | 47,5 |
| 0.445 | 0.45983 | 110,1 | 1.10066 | 46,0 | 0.41778 | 82,5 | 2.3936 | 47,3 |
| .446 | .46093 | 110,1 | .10112 | 46,1 | .41861 | 82,5 | .3889 | 47,1 |
| .447 | .46204 | 110,2 | .10158 | 46,2 | .41943 | 82,4 | .3842 | 46,8 |
| .448 | .46314 | 110,2 | .10204 | 46,3 | .42025 | 82,3 | .3795 | 46,6 |
| .449 | .46424 | 110,3 | .10251 | 46,4 | .42108 | 82,3 | .3749 | 46,4 |
| 0.450 | 0.46534 | 110,3 | 1.10297 | 46,5 | 0.42190 | 82,2 | 2.3702 | 46,2 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.450 | 0.46534 | 110,3 | 1.10297 | 46,5 | 0.42190 | 82,2 | 2.3702 | 46,2 |
| .451 | .46645 | 110,3 | .10344 | 46,6 | .42272 | 82,1 | .3656 | 46,0 |
| .452 | .46755 | 110,4 | .10390 | 46,8 | .42354 | 82,1 | .3610 | 45,7 |
| .453 | .46865 | 110,4 | .10437 | 46,9 | .42436 | 82,0 | .3565 | 45,5 |
| .454 | .46976 | 110,5 | .10484 | 47,0 | .42518 | 81,9 | .3519 | 45,3 |
| 0.455 | 0.47086 | 110,5 | 1.10531 | 47,1 | 0.42600 | 81,9 | 2.3474 | 45,1 |
| .456 | .47197 | 110,6 | .10578 | 47,2 | .42682 | 81,8 | .3429 | 44,9 |
| .457 | .47307 | 110,6 | .10625 | 47,3 | .42764 | 81,7 | .3384 | 44,7 |
| .458 | .47418 | 110,7 | .10673 | 47,4 | .42845 | 81,6 | .3340 | 44,5 |
| .459 | .47529 | 110,7 | .10720 | 47,5 | .42927 | 81,6 | .3295 | 44,3 |
| 0.460 | 0.47640 | 110,8 | 1.10768 | 47,6 | 0.43008 | 81,5 | 2.3251 | 44,1 |
| .461 | .47750 | 110,8 | .10816 | 47,8 | .43090 | 81,4 | .3207 | 43,9 |
| .462 | .47861 | 110,9 | .10863 | 47,9 | .43171 | 81,4 | .3164 | 43,7 |
| .463 | .47972 | 110,9 | .10911 | 48,0 | .43253 | 81,3 | .3120 | 43,5 |
| .464 | .48083 | 111,0 | .10959 | 48,1 | .43334 | 81,2 | .3077 | 43,3 |
| 0.465 | 0.48194 | 111,0 | 1.11007 | 48,2 | 0.43415 | 81,2 | 2.3033 | 43,1 |
| .466 | .48305 | 111,1 | .11056 | 48,3 | .43496 | 81,1 | .2991 | 42,9 |
| .467 | .48416 | 111,1 | .11104 | 48,4 | .43577 | 81,0 | .2948 | 42,7 |
| .468 | .48527 | 111,2 | .11153 | 48,5 | .43658 | 80,9 | .2905 | 42,5 |
| .469 | .48538 | 111,2 | .11201 | 48,6 | .43739 | 80,9 | .2863 | 42,3 |
| 0.470 | 0.48750 | 111,2 | 1.11250 | 48,7 | 0.43820 | 80,8 | 2.2821 | 42,1 |
| .471 | .48861 | 111,3 | .11299 | 48,9 | .43901 | 80,7 | .2779 | 41,9 |
| .472 | .48972 | 111,3 | .11348 | 49,0 | .43981 | 80,7 | .2737 | 41,7 |
| .473 | .49083 | 111,4 | .11397 | 49,1 | .44062 | 80,6 | .2695 | 41,5 |
| .474 | .49195 | 111,4 | .11446 | 49,2 | .44143 | 80,5 | .2654 | 41,3 |
| 0.475 | 0.49306 | 111,5 | 1.11495 | 49,3 | 0.44223 | 80,4 | 2.2613 | 41,1 |
| .476 | .49418 | 111,5 | .11544 | 49,4 | .44303 | 80,4 | .2572 | 40,9 |
| .477 | .49530 | 111,6 | .11594 | 49,5 | .44384 | 80,3 | .2531 | 40,8 |
| .478 | .49641 | 111,6 | .11643 | 49,6 | .44464 | 80,2 | .2490 | 40,6 |
| .479 | .49753 | 111,7 | .11693 | 49,8 | .44544 | 80,2 | .2450 | 40,4 |
| 0.480 | 0.49865 | 111,7 | 1.11743 | 49,9 | 0.44624 | 80,1 | 2.2409 | 40,2 |
| .481 | .49976 | 111,8 | .11793 | 50,0 | .44704 | 80,0 | .2369 | 40,0 |
| .482 | .50088 | 111,8 | .11843 | 50,1 | .44784 | 79,9 | .2329 | 39,9 |
| .483 | .50200 | 111,9 | .11893 | 50,2 | .44864 | 79,9 | .2289 | 39,7 |
| .484 | .50312 | 111,9 | .11943 | 50,3 | .44944 | 79,8 | .2250 | 39,5 |
| 0.485 | 0.50424 | 112,0 | 1.11994 | 50,4 | 0.45024 | 79,7 | 2.2210 | 39,3 |
| .486 | .50536 | 112,0 | .12044 | 50,5 | .45104 | 79,7 | .2171 | 39,2 |
| .487 | .50648 | 112,1 | .12095 | 50,6 | .45183 | 79,6 | .2132 | 39,0 |
| .488 | .50760 | 112,1 | .12145 | 50,8 | .45263 | 79,5 | .2093 | 38,8 |
| .489 | .50872 | 112,2 | .12196 | 50,9 | .45342 | 79,4 | .2054 | 38,6 |
| 0.490 | 0.50984 | 112,2 | 1.12247 | 51,0 | 0.45422 | 79,4 | 2.2016 | 38,5 |
| .491 | .51097 | 112,3 | .12298 | 51,1 | .45501 | 79,3 | .1978 | 38,3 |
| .492 | .51209 | 112,3 | .12349 | 51,2 | .45580 | 79,2 | .1939 | 38,1 |
| .493 | .51321 | 112,4 | .12401 | 51,3 | .45659 | 79,2 | .1901 | 38,0 |
| .494 | .51434 | 112,5 | .12452 | 51,4 | .45739 | 79,1 | .1863 | 37,8 |
| 0.495 | 0.51546 | 112,5 | 1.12503 | 51,5 | 0.45818 | 79,0 | 2.1826 | 37,6 |
| .496 | .51659 | 112,6 | .12555 | 51,7 | .45897 | 78,9 | .1788 | 37,5 |
| .497 | .51771 | 112,6 | .12607 | 51,8 | .45975 | 78,9 | .1751 | 37,3 |
| .498 | .51884 | 112,7 | .12659 | 51,9 | .46054 | 78,8 | .1714 | 37,1 |
| .499 | .51997 | 112,7 | .12711 | 52,0 | .46133 | 78,7 | .1676 | 37,0 |
| 0.500 | 0.52110 | 112,8 | 1.12763 | 52,1 | 0.46212 | 78,6 | 2.1640 | 36,8 |
| | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.500 | 0.52110 | 112,8 | 1.12763 | 52,1 | 0.46212 | 78,6 | 2.1640 | 36,8 |
| .501 | .52222 | 112,8 | .12815 | 52,2 | .46290 | 78,6 | .1603 | 36,7 |
| .502 | .52335 | 112,9 | .12867 | 52,3 | .46369 | 78,5 | .1566 | 36,5 |
| .503 | .52448 | 112,9 | .12919 | 52,4 | .46447 | 78,4 | .1530 | 36,4 |
| .504 | .52561 | 113,0 | .12972 | 52,6 | .46526 | 78,4 | .1493 | 36,2 |
| 0.505 | 0.52674 | 113,0 | 1.13025 | 52,7 | 0.46604 | 78,3 | 2.1457 | 36,0 |
| .506 | .52787 | 113,1 | .13077 | 52,8 | .46682 | 78,2 | .1421 | 35,9 |
| .507 | .52900 | 113,1 | .13130 | 52,9 | .46760 | 78,1 | .1386 | 35,7 |
| .508 | .53013 | 113,2 | .13183 | 53,0 | .46839 | 78,1 | .1350 | 35,6 |
| .509 | .53127 | 113,2 | .13236 | 53,1 | .46917 | 78,0 | .1314 | 35,4 |
| 0.510 | 0.53240 | 113,3 | 1.13289 | 53,2 | 0.46995 | 77,9 | 2.1279 | 35,3 |
| .511 | .53353 | 113,3 | .13343 | 53,4 | .47072 | 77,9 | .1244 | 35,1 |
| .512 | .53466 | 113,4 | .13396 | 53,5 | .47150 | 77,8 | .1209 | 35,0 |
| .513 | .53580 | 113,4 | .13450 | 53,6 | .47228 | 77,7 | .1174 | 34,8 |
| .514 | .53693 | 113,5 | .13503 | 53,7 | .47306 | 77,6 | .1139 | 34,7 |
| 0.515 | 0.53807 | 113,6 | 1.13557 | 53,8 | 0.47383 | 77,5 | 2.1105 | 34,5 |
| .516 | .53920 | 113,6 | .13611 | 53,9 | .47461 | 77,5 | .1070 | 34,4 |
| .517 | .54034 | 113,7 | .13665 | 54,0 | .47538 | 77,4 | .1036 | 34,3 |
| .518 | .54148 | 113,7 | .13719 | 54,1 | .47615 | 77,3 | .1002 | 34,1 |
| .519 | .54262 | 113,8 | .13773 | 54,3 | .47693 | 77,3 | .0968 | 34,0 |
| 0.520 | 0.54375 | 113,8 | 1.13827 | 54,4 | 0.47770 | 77,2 | 2.0934 | 33,8 |
| .521 | .54489 | 113,9 | .13882 | 54,5 | .47847 | 77,1 | .0900 | 33,7 |
| .522 | .54603 | 113,9 | .13936 | 54,6 | .47924 | 77,0 | .0866 | 33,5 |
| .523 | .54717 | 114,0 | .13991 | 54,7 | .48001 | 77,0 | .0833 | 33,4 |
| .524 | .54831 | 114,0 | .14046 | 54,8 | .48078 | 76,9 | .0799 | 33,3 |
| 0.525 | 0.54945 | 114,1 | 1.14101 | 54,9 | 0.48155 | 76,8 | 2.0766 | 33,1 |
| .526 | .55059 | 114,2 | .14156 | 55,1 | .48232 | 76,7 | .0733 | 33,0 |
| .527 | .55173 | 114,2 | .14211 | 55,2 | .48308 | 76,7 | .0700 | 32,9 |
| .528 | .55288 | 114,3 | .14266 | 55,3 | .48385 | 76,6 | .0668 | 32,7 |
| .529 | .55402 | 114,3 | .14321 | 55,4 | .48462 | 76,5 | .0635 | 32,6 |
| 0.530 | 0.55516 | 114,4 | 1.14377 | 55,5 | 0.48538 | 76,4 | 2.0602 | 32,4 |
| .531 | .55631 | 114,4 | .14432 | 55,6 | .48615 | 76,4 | .0570 | 32,3 |
| .532 | .55745 | 114,5 | .14488 | 55,7 | .48691 | 76,3 | .0538 | 32,2 |
| .533 | .55860 | 114,5 | .14544 | 55,9 | .48767 | 76,2 | .0506 | 32,0 |
| .534 | .55974 | 114,6 | .14600 | 56,0 | .48843 | 76,1 | .0474 | 31,9 |
| 0.535 | 0.56089 | 114,7 | 1.14656 | 56,1 | 0.48919 | 76,1 | 2.0442 | 31,8 |
| .536 | .56204 | 114,7 | .14712 | 56,2 | .48995 | 76,0 | .0410 | 31,7 |
| .537 | .56318 | 114,8 | .14768 | 56,3 | .49071 | 75,9 | .0378 | 31,5 |
| .538 | .56433 | 114,8 | .14825 | 56,4 | .49147 | 75,8 | .0347 | 31,4 |
| .539 | .56548 | 114,9 | .14881 | 56,5 | .49223 | 75,8 | .0316 | 31,3 |
| 0.540 | 0.56663 | 114,9 | 1.14938 | 56,7 | 0.49299 | 75,7 | 2.0284 | 31,1 |
| .541 | .56778 | 115,0 | .14994 | 56,8 | .49374 | 75,6 | .0253 | 31,0 |
| .542 | .56893 | 115,1 | .15051 | 56,9 | .49450 | 75,5 | .0222 | 30,9 |
| .543 | .57008 | 115,1 | .15108 | 57,0 | .49526 | 75,5 | .0192 | 30,8 |
| .544 | .57123 | 115,2 | .15165 | 57,1 | .49601 | 75,4 | .0161 | 30,6 |
| 0.545 | 0.57238 | 115,2 | 1.15223 | 57,2 | 0.49676 | 75,3 | 2.0130 | 30,5 |
| .546 | .57354 | 115,3 | .15280 | 57,4 | .49752 | 75,2 | .0100 | 30,4 |
| .547 | .57469 | 115,3 | .15337 | 57,5 | .49827 | 75,2 | .0070 | 30,3 |
| .548 | .57584 | 115,4 | .15395 | 57,6 | .49902 | 75,1 | .0039 | 30,2 |
| .549 | .57700 | 115,5 | .15452 | 57,7 | .49977 | 75,0 | .0009 | 30,0 |
| 0.550 | 0.57815 | 115,5 | 1.15510 | 57,8 | 0.50052 | 74,9 | 1.9979 | 29,9 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.550 | 0.57815 | 115,5 | 1.15510 | 57,8 | 0.50052 | 74,9 | 1.9979 | 29,9 |
| .551 | .57931 | 115,6 | .15568 | 57,9 | .50127 | 74,9 | .9949 | 29,8 |
| .552 | .58046 | 115,6 | .15626 | 58,0 | .50202 | 74,8 | .9920 | 29,7 |
| .553 | .58162 | 115,7 | .15684 | 58,2 | .50277 | 74,7 | .9890 | 29,6 |
| .554 | .58278 | 115,7 | .15742 | 58,3 | .50351 | 74,6 | .9860 | 29,4 |
| 0.555 | 0.58393 | 115,8 | 1.15801 | 58,4 | 0.50426 | 74,6 | 1.9831 | 29,3 |
| .556 | .58509 | 115,9 | .15859 | 58,5 | .50500 | 74,5 | .9802 | 29,2 |
| .557 | .58625 | 115,9 | .15918 | 58,6 | .50575 | 74,4 | .9773 | 29,1 |
| .558 | .58741 | 116,0 | .15976 | 58,7 | .50649 | 74,3 | .9744 | 29,0 |
| .559 | .58857 | 116,0 | .16035 | 58,9 | .50724 | 74,3 | .9715 | 28,9 |
| 0.560 | 0.58973 | 116,1 | 1.16094 | 59,0 | 0.50798 | 74,2 | 1.9686 | 28,8 |
| .561 | .59089 | 116,2 | .16153 | 59,1 | .50872 | 74,1 | .9657 | 28,6 |
| .562 | .59205 | 116,2 | .16212 | 59,2 | .50946 | 74,0 | .9629 | 28,5 |
| .563 | .59322 | 116,3 | .16272 | 59,3 | .51020 | 74,0 | .9600 | 28,4 |
| .564 | .59438 | 116,3 | .16331 | 59,4 | .51094 | 73,9 | .9572 | 28,3 |
| 0.565 | 0.59554 | 116,4 | 1.16390 | 59,6 | 0.51168 | 73,8 | 1.9544 | 28,2 |
| .566 | .59671 | 116,5 | .16450 | 59,7 | .51242 | 73,7 | .9515 | 28,1 |
| .567 | .59787 | 116,5 | .16510 | 59,8 | .51315 | 73,7 | .9487 | 28,0 |
| .568 | .59904 | 116,6 | .16570 | 59,9 | .51389 | 73,6 | .9459 | 27,9 |
| .569 | .60020 | 116,6 | .16630 | 60,0 | .51462 | 73,5 | .9432 | 27,8 |
| 0.570 | 0.60137 | 116,7 | 1.16690 | 60,1 | 0.51536 | 73,4 | 1.9404 | 27,7 |
| .571 | .60254 | 116,7 | .16750 | 60,3 | .51609 | 73,4 | .9376 | 27,5 |
| .572 | .60371 | 116,8 | .16810 | 60,4 | .51683 | 73,3 | .9349 | 27,4 |
| .573 | .60487 | 116,9 | .16871 | 60,5 | .51756 | 73,2 | .9321 | 27,3 |
| .574 | .60604 | 116,9 | .16931 | 60,6 | .51829 | 73,1 | .9294 | 27,2 |
| 0.575 | 0.60721 | 117,0 | 1.16992 | 60,7 | 0.51902 | 73,1 | 1.9267 | 27,1 |
| .576 | .60838 | 117,1 | .17053 | 60,8 | .51975 | 73,0 | .9240 | 27,0 |
| .577 | .60955 | 117,1 | .17113 | 61,0 | .52048 | 72,9 | .9213 | 26,9 |
| .578 | .61073 | 117,2 | .17174 | 61,1 | .52121 | 72,8 | .9186 | 26,8 |
| .579 | .61190 | 117,2 | .17236 | 61,2 | .52194 | 72,8 | .9159 | 26,7 |
| 0.580 | 0.61307 | 117,3 | 1.17297 | 61,3 | 0.52267 | 72,7 | 1.9133 | 26,6 |
| .581 | .61424 | 117,4 | .17358 | 61,4 | .52339 | 72,6 | .9106 | 26,5 |
| .582 | .61542 | 117,4 | .17420 | 61,5 | .52412 | 72,5 | .9080 | 26,4 |
| .583 | .61659 | 117,5 | .17481 | 61,7 | .52484 | 72,5 | .9053 | 26,3 |
| .584 | .61777 | 117,5 | .17543 | 61,8 | .52557 | 72,4 | .9027 | 26,2 |
| 0.585 | 0.61894 | 117,6 | 1.17605 | 61,9 | 0.52629 | 72,3 | 1.9001 | 26,1 |
| .586 | .62012 | 117,7 | .17667 | 62,0 | .52701 | 72,2 | .8975 | 26,0 |
| .587 | .62130 | 117,7 | .17729 | 62,1 | .52773 | 72,2 | .8949 | 25,9 |
| .588 | .62247 | 117,8 | .17791 | 62,2 | .52846 | 72,1 | .8923 | 25,8 |
| .589 | .62365 | 117,9 | .17853 | 62,4 | .52918 | 72,0 | .8897 | 25,7 |
| 0.590 | 0.62483 | 117,9 | 1.17916 | 62,5 | 0.52990 | 71,9 | 1.8872 | 25,6 |
| .591 | .62601 | 118,0 | .17978 | 62,6 | .53061 | 71,8 | .8846 | 25,5 |
| .592 | .62719 | 118,0 | .18041 | 62,7 | .53133 | 71,8 | .8821 | 25,4 |
| .593 | .62837 | 118,1 | .18104 | 62,8 | .53205 | 71,7 | .8795 | 25,3 |
| .594 | .62955 | 118,2 | .18167 | 63,0 | .53277 | 71,6 | .8770 | 25,2 |
| 0.595 | 0.63073 | 118,2 | 1.18230 | 63,1 | 0.53348 | 71,5 | 1.8745 | 25,1 |
| .596 | .63192 | 118,3 | .18293 | 63,2 | .53420 | 71,5 | .8720 | 25,0 |
| .597 | .63310 | 118,4 | .18356 | 63,3 | .53491 | 71,4 | .8695 | 24,9 |
| .598 | .63428 | 118,4 | .18419 | 63,4 | .53562 | 71,3 | .8670 | 24,9 |
| .599 | .63547 | 118,5 | .18483 | 63,5 | .53634 | 71,2 | .8645 | 24,8 |
| 0.600 | 0.63665 | 118,5 | 1.18547 | 63,7 | 0.53705 | 71,2 | 1.8620 | 24,7 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.600 | 0.63665 | 118,5 | 1.18547 | 63,7 | 0.53705 | 71,2 | 1.8620 | 24,7 |
| .601 | .63784 | 118,6 | .18610 | 63,8 | .53776 | 71,1 | .8596 | 24,6 |
| .602 | .63903 | 118,7 | .18674 | 63,9 | .53847 | 71,0 | .8571 | 24,5 |
| .603 | .64021 | 118,7 | .18738 | 64,0 | .53918 | 70,9 | .8547 | 24,4 |
| .604 | .64140 | 118,8 | .18802 | 64,1 | .53989 | 70,9 | .8522 | 24,3 |
| 0.605 | 0.64259 | 118,9 | 1.18866 | 64,3 | 0.54060 | 70,8 | 1.8498 | 24,2 |
| .606 | .64378 | 118,9 | .18931 | 64,4 | .54131 | 70,7 | .8474 | 24,1 |
| .607 | .64497 | 119,0 | .18995 | 64,5 | .54201 | 70,6 | .8450 | 24,0 |
| .608 | .64616 | 119,1 | .19060 | 64,6 | .54272 | 70,5 | .8426 | 24,0 |
| .609 | .64735 | 119,1 | .19124 | 64,7 | .54342 | 70,5 | .8402 | 23,9 |
| 0.610 | 0.64854 | 119,2 | 1.19189 | 64,9 | 0.54413 | 70,4 | 1.8378 | 23,8 |
| .611 | .64973 | 119,3 | .19254 | 65,0 | .54483 | 70,3 | .8354 | 23,7 |
| .612 | .65093 | 119,3 | .19319 | 65,1 | .54553 | 70,2 | .8331 | 23,6 |
| .613 | .65212 | 119,4 | .19384 | 65,2 | .54624 | 70,2 | .8307 | 23,5 |
| .614 | .65331 | 119,4 | .19449 | 65,3 | .54694 | 70,1 | .8284 | 23,4 |
| 0.615 | 0.65451 | 119,5 | 1.19515 | 65,5 | 0.54764 | 70,0 | 1.8260 | 23,3 |
| .616 | .65570 | 119,6 | .19580 | 65,6 | .54834 | 69,9 | .8237 | 23,3 |
| .617 | .65690 | 119,6 | .19646 | 65,7 | .54904 | 69,9 | .8214 | 23,2 |
| .618 | .65810 | 119,7 | .19712 | 65,8 | .54973 | 69,8 | .8191 | 23,1 |
| .619 | .65929 | 119,8 | .19778 | 65,9 | .55043 | 69,7 | .8168 | 23,0 |
| 0.620 | 0.66049 | 119,8 | 1.19844 | 66,0 | 0.55113 | 69,6 | 1.8145 | 22,9 |
| .621 | .66169 | 119,9 | .19910 | 66,2 | .55182 | 69,5 | .8122 | 22,8 |
| .622 | .66289 | 120,0 | .19976 | 66,3 | .55252 | 69,5 | .8099 | 22,8 |
| .623 | .66409 | 120,0 | .20042 | 66,4 | .55321 | 69,4 | .8076 | 22,7 |
| .624 | .66529 | 120,1 | .20109 | 66,5 | .55391 | 69,3 | .8054 | 22,6 |
| 0.625 | 0.66649 | 120,2 | 1.20175 | 66,6 | 0.55460 | 69,2 | 1.8031 | 22,5 |
| .626 | .66769 | 120,2 | .20242 | 66,8 | .55529 | 69,2 | .8009 | 22,4 |
| .627 | .66890 | 120,3 | .20309 | 66,9 | .55598 | 69,1 | .7986 | 22,4 |
| .628 | .67010 | 120,4 | .20376 | 67,0 | .55667 | 69,0 | .7964 | 22,3 |
| .629 | .67130 | 120,4 | .20443 | 67,1 | .55736 | 68,9 | .7942 | 22,2 |
| 0.630 | 0.67251 | 120,5 | 1.20510 | 67,3 | 0.55805 | 68,9 | 1.7919 | 22,1 |
| .631 | .67371 | 120,6 | .20577 | 67,4 | .55874 | 68,8 | .7897 | 22,0 |
| .632 | .67492 | 120,6 | .20645 | 67,5 | .55943 | 68,7 | .7875 | 22,0 |
| .633 | .67613 | 120,7 | .20712 | 67,6 | .56011 | 68,6 | .7853 | 21,9 |
| .634 | .67734 | 120,8 | .20780 | 67,7 | .56080 | 68,6 | .7832 | 21,8 |
| 0.635 | 0.67854 | 120,8 | 1.20848 | 67,9 | 0.56149 | 68,5 | 1.7810 | 21,7 |
| .636 | .67975 | 120,9 | .20916 | 68,0 | .56217 | 68,4 | .7788 | 21,6 |
| .637 | .68096 | 121,0 | .20984 | 68,1 | .56285 | 68,3 | .7767 | 21,6 |
| .638 | .68217 | 121,1 | .21052 | 68,2 | .56354 | 68,2 | .7745 | 21,5 |
| .639 | .68338 | 121,1 | .21120 | 68,3 | .56422 | 68,2 | .7724 | 21,4 |
| 0.640 | 0.68459 | 121,2 | 1.21189 | 68,5 | 0.56490 | 68,1 | 1.7702 | 21,3 |
| .641 | .68581 | 121,3 | .21257 | 68,6 | .56558 | 68,0 | .7681 | 21,3 |
| .642 | .68702 | 121,3 | .21326 | 68,7 | .56626 | 67,9 | .7660 | 21,2 |
| .643 | .68823 | 121,4 | .21395 | 68,8 | .56694 | 67,9 | .7639 | 21,1 |
| .644 | .68945 | 121,5 | .21463 | 68,9 | .56762 | 67,8 | .7618 | 21,0 |
| 0.645 | 0.69066 | 121,5 | 1.21532 | 69,1 | 0.56829 | 67,7 | 1.7597 | 21,0 |
| .646 | .69188 | 121,6 | .21602 | 69,2 | .56897 | 67,6 | .7576 | 20,9 |
| .647 | .69309 | 121,7 | .21671 | 69,3 | .56965 | 67,6 | .7555 | 20,8 |
| .648 | .69431 | 121,7 | .21740 | 69,4 | .57032 | 67,5 | .7534 | 20,7 |
| .649 | .69553 | 121,8 | .21810 | 69,6 | .57100 | 67,4 | .7513 | 20,7 |
| 0.650 | 0.69675 | 121,9 | 1.21879 | 69,7 | 0.57167 | 67,3 | 1.7493 | 20,6 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.650 | 0.69675 | 121,9 | 1.21879 | 69,7 | 0.57167 | 67,3 | 1.7493 | 20,6 |
| .651 | .69797 | 121,9 | .21949 | 69,8 | .57234 | 67,2 | .7472 | 20,5 |
| .652 | .69919 | 122,0 | .22019 | 69,9 | .57301 | 67,2 | .7452 | 20,5 |
| .653 | .70041 | 122,1 | .22089 | 70,0 | .57369 | 67,1 | .7431 | 20,4 |
| .654 | .70163 | 122,2 | .22159 | 70,2 | .57436 | 67,0 | .7411 | 20,3 |
| 0.655 | 0.70285 | 122,2 | 1.22229 | 70,3 | 0.57503 | 66,9 | 1.7391 | 20,2 |
| .656 | .70407 | 122,3 | .22300 | 70,4 | .57570 | 66,9 | .7370 | 20,2 |
| .657 | .70530 | 122,4 | .22370 | 70,5 | .57636 | 66,8 | .7350 | 20,1 |
| .658 | .70652 | 122,4 | .22441 | 70,7 | .57703 | 66,7 | .7330 | 20,0 |
| .659 | .70775 | 122,5 | .22511 | 70,8 | .57770 | 66,6 | .7310 | 20,0 |
| 0.660 | 0.70897 | 122,6 | 1.22582 | 70,9 | 0.57836 | 66,5 | 1.7290 | 19,9 |
| .661 | .71020 | 122,7 | .22653 | 71,0 | .57903 | 66,5 | .7270 | 19,8 |
| .662 | .71142 | 122,7 | .22724 | 71,1 | .57969 | 66,4 | .7251 | 19,8 |
| .663 | .71265 | 122,8 | .22795 | 71,3 | .58036 | 66,3 | .7231 | 19,7 |
| .664 | .71388 | 122,9 | .22867 | 71,4 | .58102 | 66,2 | .7211 | 19,6 |
| 0.665 | 0.71511 | 122,9 | 1.22938 | 71,5 | 0.58168 | 66,2 | 1.7192 | 19,6 |
| .666 | .71634 | 123,0 | .23010 | 71,6 | .58234 | 66,1 | .7172 | 19,5 |
| .667 | .71757 | 123,1 | .23081 | 71,8 | .58300 | 66,0 | .7153 | 19,4 |
| .668 | .71880 | 123,2 | .23153 | 71,9 | .58366 | 65,9 | .7133 | 19,4 |
| .669 | .72003 | 123,2 | .23225 | 72,0 | .58432 | 65,9 | .7114 | 19,3 |
| 0.670 | 0.72126 | 123,3 | 1.23297 | 72,1 | 0.58498 | 65,8 | 1.7095 | 19,2 |
| .671 | .72250 | 123,4 | .23369 | 72,2 | .58564 | 65,7 | .7075 | 19,2 |
| .672 | .72373 | 123,4 | .23442 | 72,4 | .58629 | 65,6 | .7056 | 19,1 |
| .673 | .72497 | 123,5 | .23514 | 72,5 | .58695 | 65,5 | .7037 | 19,0 |
| .674 | .72620 | 123,6 | .23587 | 72,6 | .58760 | 65,5 | .7018 | 19,0 |
| 0.675 | 0.72744 | 123,7 | 1.23659 | 72,7 | 0.58826 | 65,4 | 1.6999 | 18,9 |
| .676 | .72868 | 123,7 | .23732 | 72,9 | .58891 | 65,3 | .6980 | 18,8 |
| .677 | .72991 | 123,8 | .23805 | 73,0 | .58957 | 65,2 | .6962 | 18,8 |
| .678 | .73115 | 123,9 | .23878 | 73,1 | .59022 | 65,2 | .6943 | 18,7 |
| .679 | .73239 | 124,0 | .23951 | 73,2 | .59087 | 65,1 | .6924 | 18,6 |
| 0.680 | 0.73363 | 124,0 | 1.24025 | 73,4 | 0.59152 | 65,0 | 1.6906 | 18,6 |
| .681 | .73487 | 124,1 | .24098 | 73,5 | .59217 | 64,9 | .6887 | 18,5 |
| .682 | .73611 | 124,2 | .24172 | 73,6 | .59282 | 64,9 | .6869 | 18,5 |
| .683 | .73735 | 124,2 | .24245 | 73,7 | .59347 | 64,8 | .6850 | 18,4 |
| .684 | .73860 | 124,3 | .24319 | 73,9 | .59411 | 64,7 | .6832 | 18,3 |
| 0.685 | 0.73984 | 124,4 | 1.24393 | 74,0 | 0.59476 | 64,6 | 1.6813 | 18,3 |
| .686 | .74109 | 124,5 | .24467 | 74,1 | .59541 | 64,5 | .6795 | 18,2 |
| .687 | .74233 | 124,5 | .24541 | 74,2 | .59605 | 64,5 | .6777 | 18,1 |
| .688 | .74358 | 124,6 | .24616 | 74,4 | .59670 | 64,4 | .6759 | 18,1 |
| .689 | .74482 | 124,7 | .24690 | 74,5 | .59734 | 64,3 | .6741 | 18,0 |
| 0.690 | 0.74607 | 124,8 | 1.24765 | 74,6 | 0.59798 | 64,2 | 1.6723 | 18,0 |
| .691 | .74732 | 124,8 | .24839 | 74,7 | .59862 | 64,2 | .6705 | 17,9 |
| .692 | .74857 | 124,9 | .24914 | 74,9 | .59927 | 64,1 | .6687 | 17,8 |
| .693 | .74982 | 125,0 | .24989 | 75,0 | .59991 | 64,0 | .6669 | 17,8 |
| .694 | .75107 | 125,1 | .25064 | 75,1 | .60055 | 63,9 | .6652 | 17,7 |
| 0.695 | 0.75232 | 125,1 | 1.25139 | 75,2 | 0.60118 | 63,9 | 1.6634 | 17,7 |
| .696 | .75357 | 125,2 | .25214 | 75,4 | .60182 | 63,8 | .6616 | 17,6 |
| .697 | .75482 | 125,3 | .25290 | 75,5 | .60246 | 63,7 | .6599 | 17,6 |
| .698 | .75607 | 125,4 | .25365 | 75,6 | .60310 | 63,6 | .6581 | 17,5 |
| .699 | .75733 | 125,4 | .25441 | 75,7 | .60373 | 63,6 | .6564 | 17,4 |
| 0.700 | 0.75858 | 125,5 | 1.25517 | 75,9 | 0.60437 | 63,5 | 1.6546 | 17,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.700 | 0.75858 | 125,5 | 1.25517 | 75,9 | 0.60437 | 63,5 | 1.6546 | 17,4 |
| .701 | .75984 | 125,6 | .25593 | 76,0 | .60500 | 63,4 | .6529 | 17,3 |
| .702 | .76110 | 125,7 | .25669 | 76,1 | .60564 | 63,3 | .6512 | 17,3 |
| .703 | .76235 | 125,7 | .25745 | 76,2 | .60627 | 63,2 | .6494 | 17,2 |
| .704 | .76361 | 125,8 | .25821 | 76,4 | .60690 | 63,2 | .6477 | 17,1 |
| 0.705 | 0.76487 | 125,9 | 1.25898 | 76,5 | 0.60753 | 63,1 | 1.6460 | 17,1 |
| .706 | .76613 | 126,0 | .25974 | 76,6 | .60816 | 63,0 | .6443 | 17,0 |
| .707 | .76739 | 126,1 | .26051 | 76,7 | .60879 | 62,9 | .6426 | 17,0 |
| .708 | .76865 | 126,1 | .26128 | 76,9 | .60942 | 62,9 | .6409 | 16,9 |
| .709 | .76991 | 126,2 | .26205 | 77,0 | .61005 | 62,8 | .6392 | 16,9 |
| 0.710 | 0.77117 | 126,3 | 1.26282 | 77,1 | 0.61068 | 62,7 | 1.6375 | 16,8 |
| .711 | .77244 | 126,4 | .26359 | 77,2 | .61130 | 62,6 | .6358 | 16,8 |
| .712 | .77370 | 126,4 | .26436 | 77,4 | .61193 | 62,6 | .6342 | 16,7 |
| .713 | .77497 | 126,5 | .26514 | 77,5 | .61255 | 62,5 | .6325 | 16,7 |
| .714 | .77623 | 126,6 | .26591 | 77,6 | .61318 | 62,4 | .6308 | 16,6 |
| 0.715 | 0.77750 | 126,7 | 1.26669 | 77,7 | 0.61380 | 62,3 | 1.6292 | 16,5 |
| .716 | .77876 | 126,7 | .26747 | 77,9 | .61443 | 62,2 | .6275 | 16,5 |
| .717 | .78003 | 126,8 | .26825 | 78,0 | .61505 | 62,2 | .6259 | 16,4 |
| .718 | .78130 | 126,9 | .26903 | 78,1 | .61567 | 62,1 | .6242 | 16,4 |
| .719 | .78257 | 127,0 | .26981 | 78,3 | .61629 | 62,0 | .6226 | 16,3 |
| 0.720 | 0.78384 | 127,1 | 1.27059 | 78,4 | 0.61691 | 61,9 | 1.6210 | 16,3 |
| .721 | .78511 | 127,1 | .27138 | 78,5 | .61753 | 61,9 | .6194 | 16,2 |
| .722 | .78638 | 127,2 | .27216 | 78,6 | .61815 | 61,8 | .6177 | 16,2 |
| .723 | .78766 | 127,3 | .27295 | 78,8 | .61876 | 61,7 | .6161 | 16,1 |
| .724 | .78893 | 127,4 | .27374 | 78,9 | .61938 | 61,6 | .6145 | 16,1 |
| 0.725 | 0.79020 | 127,5 | 1.27453 | 79,0 | 0.62000 | 61,6 | 1.6129 | 16,0 |
| .726 | .79148 | 127,5 | .27532 | 79,1 | .62061 | 61,5 | .6113 | 16,0 |
| .727 | .79275 | 127,6 | .27611 | 79,3 | .62123 | 61,4 | .6097 | 15,9 |
| .728 | .79403 | 127,7 | .27690 | 79,4 | .62184 | 61,3 | .6081 | 15,9 |
| .729 | .79531 | 127,8 | .27770 | 79,5 | .62245 | 61,3 | .6065 | 15,8 |
| 0.730 | 0.79659 | 127,8 | 1.27849 | 79,7 | 0.62307 | 61,2 | 1.6050 | 15,8 |
| .731 | .79786 | 127,9 | .27929 | 79,8 | .62368 | 61,1 | .6034 | 15,7 |
| .732 | .79914 | 128,0 | .28009 | 79,9 | .62429 | 61,0 | .6018 | 15,7 |
| .733 | .80042 | 128,1 | .28089 | 80,0 | .62490 | 61,0 | .6003 | 15,6 |
| .734 | .80171 | 128,2 | .28169 | 80,2 | .62551 | 60,9 | .5987 | 15,6 |
| 0.735 | 0.80299 | 128,2 | 1.28249 | 80,3 | 0.62611 | 60,8 | 1.5972 | 15,5 |
| .736 | .80427 | 128,3 | .28330 | 80,4 | .62672 | 60,7 | .5956 | 15,5 |
| .737 | .80555 | 128,4 | .28410 | 80,6 | .62733 | 60,6 | .5941 | 15,4 |
| .738 | .80684 | 128,5 | .28491 | 80,7 | .62794 | 60,6 | .5925 | 15,4 |
| .739 | .80812 | 128,6 | .28572 | 80,8 | .62854 | 60,5 | .5910 | 15,3 |
| 0.740 | 0.80941 | 128,7 | 1.28652 | 80,9 | 0.62915 | 60,4 | 1.5895 | 15,3 |
| .741 | .81070 | 128,7 | .28733 | 81,1 | .62975 | 60,3 | .5879 | 15,2 |
| .742 | .81199 | 128,8 | .28815 | 81,2 | .63035 | 60,3 | .5864 | 15,2 |
| .743 | .81327 | 128,9 | .28896 | 81,3 | .63095 | 60,2 | .5849 | 15,1 |
| .744 | .81456 | 129,0 | .28977 | 81,5 | .63156 | 60,1 | .5834 | 15,1 |
| 0.745 | 0.81585 | 129,1 | 1.29059 | 81,6 | 0.63216 | 60,0 | 1.5819 | 15,0 |
| .746 | .81714 | 129,1 | .29140 | 81,7 | .63276 | 60,0 | .5804 | 15,0 |
| .747 | .81844 | 129,2 | .29222 | 81,8 | .63336 | 59,9 | .5789 | 14,9 |
| .748 | .81973 | 129,3 | .29304 | 82,0 | .63395 | 59,8 | .5774 | 14,9 |
| .749 | .82102 | 129,4 | .29386 | 82,1 | .63455 | 59,7 | .5759 | 14,8 |
| 0.750 | 0.82232 | 129,5 | 1.29468 | 82,2 | 0.63515 | 59,7 | 1.5744 | 14,8 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.750 | 0.82232 | 129,5 | 1.29468 | 82,2 | 0.63515 | 59,7 | 1.5744 | 14,8 |
| .751 | .82361 | 129,6 | .29551 | 82,4 | .63575 | 59,6 | .5730 | 14,7 |
| .752 | .82491 | 129,6 | .29633 | 82,5 | .63634 | 59,5 | .5715 | 14,7 |
| .753 | .82620 | 129,7 | .29716 | 82,6 | .63694 | 59,4 | .5700 | 14,6 |
| .754 | .82750 | 129,8 | .29798 | 82,8 | .63753 | 59,4 | .5686 | 14,6 |
| 0.755 | 0.82880 | 129,9 | 1.29881 | 82,9 | 0.63812 | 59,3 | 1.5671 | 14,6 |
| .756 | .83010 | 130,0 | .29964 | 83,0 | .63871 | 59,2 | .5656 | 14,5 |
| .757 | .83140 | 130,0 | .30047 | 83,1 | .63931 | 59,1 | .5642 | 14,5 |
| .758 | .83270 | 130,1 | .30130 | 83,3 | .63990 | 59,1 | .5628 | 14,4 |
| .759 | .83400 | 130,2 | .30214 | 83,4 | .64049 | 59,0 | .5613 | 14,4 |
| 0.760 | 0.83530 | 130,3 | 1.30297 | 83,5 | 0.64108 | 58,9 | 1.5599 | 14,3 |
| .761 | .83661 | 130,4 | .30381 | 83,7 | .64167 | 58,8 | .5584 | 14,3 |
| .762 | .83791 | 130,5 | .30464 | 83,8 | .64225 | 58,8 | .5570 | 14,2 |
| .763 | .83922 | 130,5 | .30548 | 83,9 | .64284 | 58,7 | .5556 | 14,2 |
| .764 | .84052 | 130,6 | .30632 | 84,1 | .64343 | 58,6 | .5542 | 14,2 |
| 0.765 | 0.84183 | 130,7 | 1.30716 | 84,2 | 0.64401 | 58,5 | 1.5528 | 14,1 |
| .766 | .84314 | 130,8 | .30801 | 84,3 | .64460 | 58,4 | .5514 | 14,1 |
| .767 | .84445 | 130,9 | .30885 | 84,4 | .64518 | 58,4 | .5500 | 14,0 |
| .768 | .84576 | 131,0 | .30970 | 84,6 | .64576 | 58,3 | .5486 | 14,0 |
| .769 | .84707 | 131,1 | .31054 | 84,7 | .64635 | 58,2 | .5472 | 13,9 |
| 0.770 | 0.84838 | 131,1 | 1.31139 | 84,8 | 0.64693 | 58,1 | 1.5458 | 13,9 |
| .771 | .84969 | 131,2 | .31224 | 85,0 | .64751 | 58,1 | .5444 | 13,9 |
| .772 | .85100 | 131,3 | .31309 | 85,1 | .64809 | 58,0 | .5430 | 13,8 |
| .773 | .85231 | 131,4 | .31394 | 85,2 | .64867 | 57,9 | .5416 | 13,8 |
| .774 | .85363 | 131,5 | .31479 | 85,4 | .64925 | 57,8 | .5402 | 13,7 |
| 0.775 | 0.85494 | 131,6 | 1.31565 | 85,5 | 0.64983 | 57,8 | 1.5389 | 13,7 |
| .776 | .85626 | 131,7 | .31650 | 85,6 | .65040 | 57,7 | .5375 | 13,6 |
| .777 | .85758 | 131,7 | .31736 | 85,8 | .65098 | 57,6 | .5361 | 13,6 |
| .778 | .85889 | 131,8 | .31822 | 85,9 | .65156 | 57,5 | .5348 | 13,6 |
| .779 | .86021 | 131,9 | .31908 | 86,0 | .65213 | 57,5 | .5334 | 13,5 |
| 0.780 | 0.86153 | 132,0 | 1.31994 | 86,2 | 0.65271 | 57,4 | 1.5321 | 13,5 |
| .781 | .86285 | 132,1 | .32080 | 86,3 | .65328 | 57,3 | .5307 | 13,4 |
| .782 | .86417 | 132,2 | .32166 | 86,4 | .65385 | 57,2 | .5294 | 13,4 |
| .783 | .86550 | 132,3 | .32253 | 86,5 | .65443 | 57,2 | .5281 | 13,3 |
| .784 | .86682 | 132,3 | .32340 | 86,7 | .65500 | 57,1 | .5267 | 13,3 |
| 0.785 | 0.86814 | 132,4 | 1.32426 | 86,8 | 0.65557 | 57,0 | 1.5254 | 13,3 |
| .786 | .86947 | 132,5 | .32513 | 86,9 | .65614 | 56,9 | .5241 | 13,2 |
| .787 | .87079 | 132,6 | .32600 | 87,1 | .65671 | 56,9 | .5228 | 13,2 |
| .788 | .87212 | 132,7 | .32687 | 87,2 | .65727 | 56,8 | .5214 | 13,1 |
| .789 | .87345 | 132,8 | .32775 | 87,3 | .65784 | 56,7 | .5201 | 13,1 |
| 0.790 | 0.87478 | 132,9 | 1.32862 | 87,5 | 0.65841 | 56,6 | 1.5188 | 13,1 |
| .791 | .87610 | 132,9 | .32950 | 87,6 | .65898 | 56,6 | .5175 | 13,0 |
| .792 | .87743 | 133,0 | .33037 | 87,7 | .65954 | 56,5 | .5162 | 13,0 |
| .793 | .87877 | 133,1 | .33125 | 87,9 | .66011 | 56,4 | .5149 | 12,9 |
| .794 | .88010 | 133,2 | .33213 | 88,0 | .66067 | 56,4 | .5136 | 12,9 |
| 0.795 | 0.88143 | 133,3 | 1.33301 | 88,1 | 0.66123 | 56,3 | 1.5123 | 12,9 |
| .796 | .88276 | 133,4 | .33389 | 88,3 | .66179 | 56,2 | .5110 | 12,8 |
| .797 | .88410 | 133,5 | .33478 | 88,4 | .66236 | 56,1 | .5098 | 12,8 |
| .798 | .88543 | 133,6 | .33566 | 88,5 | .66292 | 56,1 | .5085 | 12,8 |
| .799 | .88677 | 133,7 | .33655 | 88,7 | .66348 | 56,0 | .5072 | 12,7 |
| 0.800 | 0.88811 | 133,7 | 1.33743 | 88,8 | 0.66404 | 55,9 | 1.5059 | 12,7 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.800 | 0.88811 | 133.7 | 1.33743 | 88.8 | 0.66404 | 55.9 | 1.5059 | 12.7 |
| .801 | .88944 | 133.8 | .33832 | 88.9 | .66460 | 55.8 | .5047 | 12.6 |
| .802 | .89078 | 133.9 | .33921 | 89.1 | .66515 | 55.8 | .5034 | 12.6 |
| .803 | .89212 | 134.0 | .34011 | 89.2 | .66571 | 55.7 | .5022 | 12.6 |
| .804 | .89346 | 134.1 | .34100 | 89.3 | .66627 | 55.6 | .5009 | 12.5 |
| 0.805 | 0.89480 | 134.2 | 1.34189 | 89.5 | 0.66682 | 55.5 | 1.4996 | 12.5 |
| .806 | .89615 | 134.3 | .34279 | 89.6 | .66738 | 55.5 | .4984 | 12.5 |
| .807 | .89749 | 134.4 | .34368 | 89.7 | .66793 | 55.4 | .4972 | 12.4 |
| .808 | .89883 | 134.5 | .34458 | 89.9 | .66849 | 55.3 | .4959 | 12.4 |
| .809 | .90018 | 134.5 | .34548 | 90.0 | .66904 | 55.2 | .4947 | 12.3 |
| 0.810 | 0.90152 | 134.6 | 1.34638 | 90.2 | 0.66959 | 55.2 | 1.4935 | 12.3 |
| .811 | .90287 | 134.7 | .34729 | 90.3 | .67014 | 55.1 | .4922 | 12.3 |
| .812 | .90422 | 134.8 | .34819 | 90.4 | .67069 | 55.0 | .4910 | 12.2 |
| .813 | .90557 | 134.9 | .34909 | 90.6 | .67124 | 54.9 | .4898 | 12.2 |
| .814 | .90692 | 135.0 | .35000 | 90.7 | .67179 | 54.9 | .4886 | 12.2 |
| 0.815 | 0.90827 | 135.1 | 1.35091 | 90.8 | 0.67234 | 54.8 | 1.4873 | 12.1 |
| .816 | .90962 | 135.2 | .35182 | 91.0 | .67289 | 54.7 | .4861 | 12.1 |
| .817 | .91097 | 135.3 | .35273 | 91.1 | .67343 | 54.6 | .4849 | 12.0 |
| .818 | .91232 | 135.4 | .35364 | 91.2 | .67398 | 54.6 | .4837 | 12.0 |
| .819 | .91368 | 135.5 | .35455 | 91.4 | .67453 | 54.5 | .4825 | 12.0 |
| 0.820 | 0.91503 | 135.5 | 1.35547 | 91.5 | 0.67507 | 54.4 | 1.4813 | 11.9 |
| .821 | .91639 | 135.6 | .35638 | 91.6 | .67561 | 54.4 | .4801 | 11.9 |
| .822 | .91775 | 135.7 | .35730 | 91.8 | .67616 | 54.3 | .4789 | 11.9 |
| .823 | .91910 | 135.8 | .35822 | 91.9 | .67670 | 54.2 | .4778 | 11.8 |
| .824 | .92046 | 135.9 | .35914 | 92.0 | .67724 | 54.1 | .4766 | 11.8 |
| 0.825 | 0.92182 | 136.0 | 1.36006 | 92.2 | 0.67778 | 54.1 | 1.4754 | 11.8 |
| .826 | .92318 | 136.1 | .36098 | 92.3 | .67832 | 54.0 | .4742 | 11.7 |
| .827 | .92454 | 136.2 | .36190 | 92.5 | .67886 | 53.9 | .4731 | 11.7 |
| .828 | .92591 | 136.3 | .36283 | 92.6 | .67940 | 53.8 | .4719 | 11.7 |
| .829 | .92727 | 136.4 | .36376 | 92.7 | .67994 | 53.8 | .4707 | 11.6 |
| 0.830 | 0.92863 | 136.5 | 1.36468 | 92.9 | 0.68048 | 53.7 | 1.4696 | 11.6 |
| .831 | .93000 | 136.6 | .36561 | 93.0 | .68101 | 53.6 | .4684 | 11.6 |
| .832 | .93137 | 136.7 | .36654 | 93.1 | .68155 | 53.5 | .4672 | 11.5 |
| .833 | .93273 | 136.7 | .36748 | 93.3 | .68208 | 53.5 | .4661 | 11.5 |
| .834 | .93410 | 136.8 | .36841 | 93.4 | .68262 | 53.4 | .4649 | 11.5 |
| 0.835 | 0.93547 | 136.9 | 1.36934 | 93.5 | 0.68315 | 53.3 | 1.4638 | 11.4 |
| .836 | .93684 | 137.0 | .37028 | 93.7 | .68368 | 53.3 | .4627 | 11.4 |
| .837 | .93821 | 137.1 | .37122 | 93.8 | .68422 | 53.2 | .4615 | 11.4 |
| .838 | .93958 | 137.2 | .37216 | 94.0 | .68475 | 53.1 | .4604 | 11.3 |
| .839 | .94095 | 137.3 | .37310 | 94.1 | .68528 | 53.0 | .4593 | 11.3 |
| 0.840 | 0.94233 | 137.4 | 1.37404 | 94.2 | 0.68581 | 53.0 | 1.4581 | 11.3 |
| .841 | .94370 | 137.5 | .37498 | 94.4 | .68634 | 52.9 | .4570 | 11.2 |
| .842 | .94508 | 137.6 | .37593 | 94.5 | .68687 | 52.8 | .4559 | 11.2 |
| .843 | .94645 | 137.7 | .37687 | 94.6 | .68739 | 52.7 | .4548 | 11.2 |
| .844 | .94783 | 137.8 | .37782 | 94.8 | .68792 | 52.7 | .4537 | 11.1 |
| 0.845 | 0.94921 | 137.9 | 1.37877 | 94.9 | 0.68845 | 52.6 | 1.4525 | 11.1 |
| .846 | .95059 | 138.0 | .37972 | 95.1 | .68897 | 52.5 | .4514 | 11.1 |
| .847 | .95197 | 138.1 | .38067 | 95.2 | .68950 | 52.5 | .4503 | 11.0 |
| .848 | .95335 | 138.2 | .38162 | 95.3 | .69002 | 52.4 | .4492 | 11.0 |
| .849 | .95473 | 138.3 | .38258 | 95.5 | .69055 | 52.3 | .4481 | 11.0 |
| 0.850 | 0.95612 | 138.4 | 1.38353 | 95.6 | 0.69107 | 52.2 | 1.4470 | 10.9 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.850 | 0.95612 | 138.4 | 1.38353 | 95.6 | 0.69107 | 52.2 | 1.4470 | 10.9 |
| .851 | .95750 | 138.4 | .38449 | 95.7 | .69159 | 52.2 | .4459 | 10.9 |
| .852 | .95888 | 138.5 | .38545 | 95.9 | .69211 | 52.1 | .4449 | 10.9 |
| .853 | .96027 | 138.6 | .38641 | 96.0 | .69263 | 52.0 | .4438 | 10.8 |
| .854 | .96166 | 138.7 | .38737 | 95.2 | .69315 | 52.0 | .4427 | 10.8 |
| 0.855 | 0.96305 | 138.8 | 1.38833 | 96.3 | 0.69367 | 51.9 | 1.4416 | 10.8 |
| .856 | .96443 | 138.9 | .38929 | 96.4 | .69419 | 51.8 | .4405 | 10.8 |
| .857 | .96582 | 139.0 | .39026 | 96.6 | .69471 | 51.7 | .4395 | 10.7 |
| .858 | .96721 | 139.1 | .39122 | 96.7 | .69523 | 51.7 | .4384 | 10.7 |
| .859 | .96861 | 139.2 | .39219 | 96.9 | .69574 | 51.6 | .4373 | 10.7 |
| 0.860 | 0.97000 | 139.3 | 1.39316 | 97.0 | 0.69626 | 51.5 | 1.4362 | 10.6 |
| .861 | .97139 | 139.4 | .39413 | 97.1 | .69677 | 51.5 | .4352 | 10.6 |
| .862 | .97279 | 139.5 | .39510 | 97.3 | .69729 | 51.4 | .4341 | 10.6 |
| .863 | .97418 | 139.6 | .39608 | 97.4 | .69780 | 51.3 | .4331 | 10.5 |
| .864 | .97558 | 139.7 | .39705 | 97.6 | .69831 | 51.2 | .4320 | 10.5 |
| 0.865 | 0.97698 | 139.8 | 1.39803 | 97.7 | 0.69882 | 51.2 | 1.4310 | 10.5 |
| .866 | .97838 | 139.9 | .39901 | 97.8 | .69934 | 51.1 | .4299 | 10.4 |
| .867 | .97978 | 140.0 | .39999 | 98.0 | .69985 | 51.0 | .4289 | 10.4 |
| .868 | .98118 | 140.1 | .40097 | 98.1 | .70036 | 51.0 | .4278 | 10.4 |
| .869 | .98258 | 140.2 | .40195 | 98.3 | .70087 | 50.9 | .4268 | 10.4 |
| 0.870 | 0.98398 | 140.3 | 1.40293 | 98.4 | 0.70137 | 50.8 | 1.4258 | 10.3 |
| .871 | .98538 | 140.4 | .40392 | 98.5 | .70188 | 50.7 | .4247 | 10.3 |
| .872 | .98679 | 140.5 | .40490 | 98.7 | .70239 | 50.7 | .4237 | 10.3 |
| .873 | .98819 | 140.6 | .40588 | 98.8 | .70290 | 50.6 | .4227 | 10.2 |
| .874 | .98960 | 140.7 | .40688 | 99.0 | .70340 | 50.5 | .4217 | 10.2 |
| 0.875 | 0.99101 | 140.8 | 1.40787 | 99.1 | 0.70391 | 50.5 | 1.4206 | 10.2 |
| .876 | .99241 | 140.9 | .40886 | 99.2 | .70441 | 50.4 | .4196 | 10.2 |
| .877 | .99382 | 141.0 | .40985 | 99.4 | .70491 | 50.3 | .4185 | 10.1 |
| .878 | .99523 | 141.1 | .41085 | 99.5 | .70542 | 50.2 | .4176 | 10.1 |
| .879 | .99665 | 141.2 | .41184 | 99.7 | .70592 | 50.2 | .4166 | 10.1 |
| 0.880 | 0.99806 | 141.3 | 1.41284 | 99.8 | 0.70642 | 50.1 | 1.4156 | 10.0 |
| .881 | .99947 | 141.4 | .41384 | 99.9 | .70692 | 50.0 | .4146 | 10.0 |
| .882 | 1.00089 | 141.5 | .41484 | 100.1 | .70742 | 50.0 | .4136 | 10.0 |
| .883 | .00230 | 141.6 | .41584 | 100.2 | .70792 | 49.9 | .4126 | 10.0 |
| .884 | .00372 | 141.7 | .41684 | 100.4 | .70842 | 49.8 | .4116 | 9.9 |
| 0.885 | 1.00514 | 141.8 | 1.41785 | 100.5 | 0.70892 | 49.7 | 1.4106 | 9.9 |
| .886 | .00655 | 141.9 | .41886 | 100.7 | .70941 | 49.7 | .4096 | 9.9 |
| .887 | .00797 | 142.0 | .41986 | 100.8 | .70991 | 49.6 | .4086 | 9.8 |
| .888 | .00939 | 142.1 | .42087 | 100.9 | .71040 | 49.5 | .4076 | 9.8 |
| .889 | .01081 | 142.2 | .42188 | 101.1 | .71090 | 49.5 | .4067 | 9.8 |
| 0.890 | 1.01224 | 142.3 | 1.42289 | 101.2 | 0.71139 | 49.4 | 1.4057 | 9.8 |
| .891 | .01365 | 142.4 | .42391 | 101.4 | .71189 | 49.3 | .4047 | 9.7 |
| .892 | .01508 | 142.5 | .42492 | 101.5 | .71238 | 49.3 | .4037 | 9.7 |
| .893 | .01651 | 142.6 | .42594 | 101.7 | .71287 | 49.2 | .4028 | 9.7 |
| .894 | .01794 | 142.7 | .42695 | 101.8 | .71336 | 49.1 | .4018 | 9.7 |
| 0.895 | 1.01936 | 142.8 | 1.42797 | 101.9 | 0.71385 | 49.0 | 1.4008 | 9.6 |
| .896 | .02079 | 142.9 | .42899 | 102.1 | .71434 | 49.0 | .3999 | 9.6 |
| .897 | .02222 | 143.0 | .43001 | 102.2 | .71483 | 48.9 | .3989 | 9.6 |
| .898 | .02365 | 143.1 | .43104 | 102.4 | .71532 | 48.8 | .3980 | 9.5 |
| .899 | .02508 | 143.2 | .43206 | 102.5 | .71581 | 48.8 | .3970 | 9.5 |
| 0.900 | 1.02552 | 143.3 | 1.43309 | 102.7 | 0.71630 | 48.7 | 1.3961 | 9.5 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 0.900 | 1.02652 | I43 | 1.43309 | 103 | 0.71630 | 48,7 | 1.3961 | 9,5 |
| .901 | .02795 | I43 | .43411 | 103 | .71678 | 48,6 | .3951 | 9,5 |
| .902 | .02938 | I44 | .43514 | 103 | .71727 | 48,6 | .3942 | 9,4 |
| .903 | .03082 | I44 | .43617 | 103 | .71776 | 48,5 | .3932 | 9,4 |
| .904 | .03226 | I44 | .43720 | 103 | .71824 | 48,4 | .3923 | 9,4 |
| 0.905 | 1.03370 | I44 | 1.43824 | 103 | 0.71872 | 48,3 | 1.3914 | 9,4 |
| .906 | .03513 | I44 | .43927 | 104 | .71921 | 48,3 | .3904 | 9,3 |
| .907 | .03657 | I44 | .44031 | 104 | .71969 | 48,2 | .3895 | 9,3 |
| .908 | .03801 | I44 | .44134 | 104 | .72017 | 48,1 | .3886 | 9,3 |
| .909 | .03946 | I44 | .44238 | 104 | .72065 | 48,1 | .3876 | 9,3 |
| 0.910 | 1.04090 | I44 | 1.44342 | 104 | 0.72113 | 48,0 | 1.3867 | 9,2 |
| .911 | .04234 | I44 | .44446 | 104 | .72161 | 47,9 | .3858 | 9,2 |
| .912 | .04379 | I45 | .44551 | 104 | .72209 | 47,9 | .3849 | 9,2 |
| .913 | .04523 | I45 | .44655 | 105 | .72257 | 47,8 | .3840 | 9,2 |
| .914 | .04668 | I45 | .44760 | 105 | .72305 | 47,7 | .3830 | 9,1 |
| 0.915 | 1.04813 | I45 | 1.44865 | 105 | 0.72352 | 47,7 | 1.3821 | 9,1 |
| .916 | .04958 | I45 | .44969 | 105 | .72400 | 47,6 | .3812 | 9,1 |
| .917 | .05103 | I45 | .45075 | 105 | .72448 | 47,5 | .3803 | 9,1 |
| .918 | .05248 | I45 | .45180 | 105 | .72495 | 47,4 | .3794 | 9,0 |
| .919 | .05393 | I45 | .45285 | 105 | .72542 | 47,4 | .3785 | 9,0 |
| 0.920 | 1.05539 | I45 | 1.45390 | 106 | 0.72590 | 47,3 | 1.3776 | 9,0 |
| .921 | .05684 | I45 | .45496 | 106 | .72637 | 47,2 | .3767 | 9,0 |
| .922 | .05830 | I46 | .45602 | 106 | .72684 | 47,2 | .3758 | 8,9 |
| .923 | .05975 | I46 | .45708 | 106 | .72731 | 47,1 | .3749 | 8,9 |
| .924 | .06121 | I46 | .45814 | 106 | .72778 | 47,0 | .3740 | 8,9 |
| 0.925 | 1.06267 | I46 | 1.45920 | 106 | 0.72825 | 47,0 | 1.3731 | 8,9 |
| .926 | .06413 | I46 | .46026 | 106 | .72872 | 46,9 | .3723 | 8,8 |
| .927 | .06559 | I46 | .46133 | 107 | .72919 | 46,8 | .3714 | 8,8 |
| .928 | .06705 | I46 | .46239 | 107 | .72966 | 46,8 | .3705 | 8,8 |
| .929 | .06851 | I46 | .46346 | 107 | .73013 | 46,7 | .3696 | 8,8 |
| 0.930 | 1.06998 | I46 | 1.46453 | 107 | 0.73059 | 46,6 | 1.3687 | 8,7 |
| .931 | .07144 | I47 | .46560 | 107 | .73106 | 46,6 | .3679 | 8,7 |
| .932 | .07291 | I47 | .46667 | 107 | .73153 | 46,5 | .3670 | 8,7 |
| .933 | .07438 | I47 | .46775 | 107 | .73199 | 46,4 | .3661 | 8,7 |
| .934 | .07584 | I47 | .46882 | 108 | .73245 | 46,4 | .3653 | 8,6 |
| 0.935 | 1.07731 | I47 | 1.46990 | 108 | 0.73292 | 46,3 | 1.3644 | 8,6 |
| .936 | .07878 | I47 | .47098 | 108 | .73338 | 46,2 | .3636 | 8,6 |
| .937 | .08025 | I47 | .47205 | 108 | .73384 | 46,1 | .3627 | 8,6 |
| .938 | .08173 | I47 | .47314 | 108 | .73430 | 46,1 | .3618 | 8,5 |
| .939 | .08320 | I47 | .47422 | 108 | .73476 | 46,0 | .3610 | 8,5 |
| 0.940 | 1.08468 | I48 | 1.47530 | 108 | 0.73522 | 45,9 | 1.3601 | 8,5 |
| .941 | .08615 | I48 | .47639 | 109 | .73568 | 45,9 | .3593 | 8,5 |
| .942 | .08763 | I48 | .47748 | 109 | .73614 | 45,8 | .3584 | 8,5 |
| .943 | .08911 | I48 | .47857 | 109 | .73660 | 45,7 | .3576 | 8,4 |
| .944 | .09059 | I48 | .47966 | 109 | .73705 | 45,7 | .3568 | 8,4 |
| 0.945 | 1.09207 | I48 | 1.48075 | 109 | 0.73751 | 45,6 | 1.3559 | 8,4 |
| .946 | .09355 | I48 | .48184 | 109 | .73797 | 45,5 | .3551 | 8,4 |
| .947 | .09503 | I48 | .48293 | 110 | .73842 | 45,5 | .3542 | 8,3 |
| .948 | .09651 | I48 | .48403 | 110 | .73888 | 45,4 | .3534 | 8,3 |
| .949 | .09800 | I49 | .48513 | 110 | .73933 | 45,3 | .3526 | 8,3 |
| 0.950 | 1.09948 | I49 | 1.48623 | 110 | 0.73978 | 45,3 | 1.3517 | 8,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|-------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 0.950 | 1.09948 | I49 | 1.48623 | II0 | 0.73978 | 45.3 | 1.3517 | 8.3 |
| .951 | .10097 | I49 | .48733 | II0 | .74024 | 45.2 | .3509 | 8.2 |
| .952 | .10246 | T49 | .48843 | II0 | .74069 | 45.1 | .3501 | 8.2 |
| .953 | .10395 | I49 | .48953 | II0 | .74114 | 45.1 | .3493 | 8.2 |
| .954 | .10544 | I49 | .49064 | III | .74159 | 45.0 | .3485 | 8.2 |
| 0.955 | 1.10693 | I49 | 1.49174 | III | 0.74204 | 44.9 | 1.3476 | 8.2 |
| .956 | .10842 | I49 | .49285 | III | .74249 | 44.9 | .3468 | 8.1 |
| .957 | .10991 | I49 | .49396 | III | .74294 | 44.8 | .3460 | 8.1 |
| .958 | .11141 | I50 | .49507 | III | .74338 | 44.7 | .3452 | 8.1 |
| .959 | .11291 | I50 | .49618 | III | .74383 | 44.7 | .3444 | 8.1 |
| 0.960 | 1.11440 | I50 | 1.49729 | III | 0.74428 | 44.6 | 1.3436 | 8.1 |
| .961 | .11590 | I50 | .49841 | III | .74472 | 44.5 | .3428 | 8.0 |
| .962 | .11740 | I50 | .49953 | III | .74517 | 44.5 | .3420 | 8.0 |
| .963 | .11890 | I50 | .50064 | III | .74561 | 44.4 | .3412 | 8.0 |
| .964 | .12040 | I50 | .50176 | III | .74606 | 44.3 | .3404 | 8.0 |
| 0.965 | 1.12190 | I50 | 1.50289 | III | 0.74650 | 44.3 | 1.3396 | 7.9 |
| .966 | .12341 | I50 | .50401 | III | .74694 | 44.2 | .3388 | 7.9 |
| .967 | .12491 | I51 | .50513 | III | .74738 | 44.1 | .3380 | 7.9 |
| .968 | .12642 | I51 | .50626 | III | .74782 | 44.1 | .3372 | 7.9 |
| .969 | .12792 | I51 | .50739 | III | .74826 | 44.0 | .3364 | 7.9 |
| 0.970 | 1.12943 | I51 | 1.50851 | III | 0.74870 | 43.9 | 1.3356 | 7.8 |
| .971 | .13094 | I51 | .50964 | III | .74914 | 43.9 | .3349 | 7.8 |
| .972 | .13245 | I51 | .51078 | III | .74958 | 43.8 | .3341 | 7.8 |
| .973 | .13396 | I51 | .51191 | III | .75002 | 43.7 | .3333 | 7.8 |
| .974 | .13547 | I51 | .51304 | III | .75046 | 43.7 | .3325 | 7.8 |
| 0.975 | 1.13699 | I51 | 1.51418 | III | 0.75089 | 43.6 | 1.3317 | 7.7 |
| .976 | .13850 | I52 | .51532 | III | .75133 | 43.6 | .3310 | 7.7 |
| .977 | .14002 | I52 | .51646 | III | .75176 | 43.5 | .3302 | 7.7 |
| .978 | .14154 | I52 | .51760 | III | .75220 | 43.4 | .3294 | 7.7 |
| .979 | .14305 | I52 | .51874 | III | .75263 | 43.4 | .3287 | 7.7 |
| 0.980 | 1.14457 | I52 | 1.51988 | III | 0.75307 | 43.3 | 1.3279 | 7.6 |
| .981 | .14609 | I52 | .52103 | III | .75350 | 43.2 | .3271 | 7.6 |
| .982 | .14761 | I52 | .52218 | III | .75393 | 43.2 | .3264 | 7.6 |
| .983 | .14914 | I52 | .52332 | III | .75436 | 43.1 | .3256 | 7.6 |
| .984 | .15066 | I52 | .52447 | III | .75479 | 43.0 | .3249 | 7.6 |
| 0.985 | 1.15219 | I53 | 1.52563 | III | 0.75522 | 43.0 | 1.3241 | 7.5 |
| .986 | .15371 | I53 | .52678 | III | .75565 | 42.9 | .3234 | 7.5 |
| .987 | .15524 | I53 | .52793 | III | .75608 | 42.8 | .3226 | 7.5 |
| .988 | .15677 | I53 | .52909 | III | .75651 | 42.8 | .3219 | 7.5 |
| .989 | .15830 | I53 | .53025 | III | .75694 | 42.7 | .3211 | 7.5 |
| 0.990 | 1.15983 | I53 | 1.53141 | III | 0.75736 | 42.6 | 1.3204 | 7.4 |
| .991 | .16136 | I53 | .53257 | III | .75779 | 42.6 | .3196 | 7.4 |
| .992 | .16289 | I53 | .53373 | III | .75821 | 42.5 | .3189 | 7.4 |
| .993 | .16443 | I53 | .53489 | III | .75864 | 42.4 | .3182 | 7.4 |
| .994 | .16596 | I54 | .53606 | III | .75906 | 42.4 | .3174 | 7.4 |
| 0.995 | 1.16750 | I54 | 1.53722 | III | 0.75949 | 42.3 | 1.3167 | 7.3 |
| .996 | .16904 | I54 | .53839 | III | .75991 | 42.3 | .3159 | 7.3 |
| .997 | .17058 | I54 | .53956 | III | .76033 | 42.2 | .3152 | 7.3 |
| .998 | .17212 | I54 | .54073 | III | .76075 | 42.1 | .3145 | 7.3 |
| .999 | .17366 | I54 | .54191 | III | .76117 | 42.1 | .3138 | 7.3 |
| 1.000 | 1.17520 | I54 | 1.54308 | III | 0.76159 | 42.0 | 1.3130 | 7.2 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 000 | I. 17520 | 154 | I. 54308 | 118 | 0. 76159 | 42,0 | I. 3130 | 7,2 |
| .001 | .17674 | 154 | .54426 | 118 | .76201 | 41,9 | .3123 | 7,2 |
| .002 | .17829 | 155 | .54543 | 118 | .76243 | 41,9 | .3116 | 7,2 |
| .003 | .17984 | 155 | .54661 | 118 | .76285 | 41,8 | .3109 | 7,2 |
| .004 | .18138 | 155 | .54779 | 118 | .76327 | 41,7 | .3102 | 7,2 |
| I. 005 | I. 18293 | 155 | I. 54898 | 118 | 0. 76369 | 41,7 | I. 3094 | 7,1 |
| .006 | .18448 | 155 | .55016 | 118 | .76410 | 41,6 | .3087 | 7,1 |
| .007 | .18603 | 155 | .55134 | 119 | .76452 | 41,6 | .3080 | 7,1 |
| .008 | .18758 | 155 | .55252 | 119 | .76493 | 41,5 | .3073 | 7,1 |
| .009 | .18914 | 155 | .55372 | 119 | .76535 | 41,4 | .3066 | 7,1 |
| I. 010 | I. 19069 | 155 | I. 55491 | 119 | 0. 76576 | 41,4 | I. 3059 | 7,1 |
| .011 | .19225 | 156 | .55610 | 119 | .76618 | 41,3 | .3052 | 7,0 |
| .012 | .19380 | 156 | .55729 | 119 | .76659 | 41,2 | .3045 | 7,0 |
| .013 | .19536 | 156 | .55849 | 120 | .76700 | 41,2 | .3038 | 7,0 |
| .014 | .19692 | 156 | .55969 | 120 | .76741 | 41,1 | .3031 | 7,0 |
| I. 015 | I. 19848 | 156 | I. 56088 | 120 | 0. 76782 | 41,0 | I. 3024 | 7,0 |
| .016 | .20004 | 156 | .56208 | 120 | .76823 | 41,0 | .3017 | 6,9 |
| .017 | .20160 | 156 | .56328 | 120 | .76864 | 40,9 | .3010 | 6,9 |
| .018 | .20317 | 156 | .56449 | 120 | .76905 | 40,9 | .3003 | 6,9 |
| .019 | .20473 | 157 | .56569 | 120 | .76946 | 40,8 | .2996 | 6,9 |
| I. 020 | I. 20630 | 157 | I. 56689 | 121 | 0. 76987 | 40,7 | I. 2989 | 6,9 |
| .021 | .20787 | 157 | .56810 | 121 | .77027 | 40,7 | .2982 | 6,9 |
| .022 | .20944 | 157 | .56931 | 121 | .77068 | 40,6 | .2976 | 6,8 |
| .023 | .21101 | 157 | .57052 | 121 | .77109 | 40,5 | .2969 | 6,8 |
| .024 | .21258 | 157 | .57173 | 121 | .77149 | 40,5 | .2962 | 6,8 |
| I. 025 | I. 21415 | 157 | I. 57295 | 121 | 0. 77190 | 40,4 | I. 2955 | 6,8 |
| .026 | .21572 | 157 | .57416 | 122 | .77230 | 40,4 | .2948 | 6,8 |
| .027 | .21730 | 158 | .57538 | 122 | .77270 | 40,3 | .2942 | 6,7 |
| .028 | .21887 | 158 | .57660 | 122 | .77310 | 40,2 | .2935 | 6,7 |
| .029 | .22045 | 158 | .57782 | 122 | .77351 | 40,2 | .2928 | 6,7 |
| I. 030 | I. 22203 | 158 | I. 57904 | 122 | 0. 77391 | 40,1 | I. 2921 | 6,7 |
| .031 | .22361 | 158 | .58026 | 122 | .77431 | 40,0 | .2915 | 6,7 |
| .032 | .22519 | 158 | .58148 | 123 | .77471 | 40,0 | .2908 | 6,7 |
| .033 | .22677 | 158 | .58271 | 123 | .77511 | 39,9 | .2901 | 6,6 |
| .034 | .22836 | 158 | .58394 | 123 | .77551 | 39,9 | .2895 | 6,6 |
| I. 035 | I. 22994 | 159 | I. 58517 | 123 | 0. 77591 | 39,8 | I. 2888 | 6,6 |
| .036 | .23153 | 159 | .58640 | 123 | .77630 | 39,7 | .2882 | 6,6 |
| .037 | .23311 | 159 | .58763 | 123 | .77670 | 39,7 | .2875 | 6,6 |
| .038 | .23470 | 159 | .58886 | 123 | .77710 | 39,6 | .2868 | 6,6 |
| .039 | .23629 | 159 | .59010 | 124 | .77749 | 39,6 | .2862 | 6,5 |
| I. 040 | I. 23788 | 159 | I. 59134 | 124 | 0. 77789 | 39,5 | I. 2855 | 6,5 |
| .041 | .23947 | 159 | .59257 | 124 | .77828 | 39,4 | .2849 | 6,5 |
| .042 | .24107 | 159 | .59381 | 124 | .77868 | 39,4 | .2842 | 6,5 |
| .043 | .24266 | 160 | .59506 | 124 | .77907 | 39,3 | .2836 | 6,5 |
| .044 | .24426 | 160 | .59630 | 124 | .77946 | 39,2 | .2829 | 6,5 |
| I. 045 | I. 24585 | 160 | I. 59755 | 125 | 0. 77985 | 39,2 | I. 2823 | 6,4 |
| .046 | .24745 | 160 | .59879 | 125 | .78025 | 39,1 | .2816 | 6,4 |
| .047 | .24905 | 160 | .60004 | 125 | .78064 | 39,1 | .2810 | 6,4 |
| .048 | .25065 | 160 | .60129 | 125 | .78103 | 39,0 | .2804 | 6,4 |
| .049 | .25225 | 160 | .60254 | 125 | .78142 | 38,9 | .2797 | 6,4 |
| I. 050 | I. 25386 | 160 | I. 60379 | 125 | 0. 78181 | 38,9 | I. 2791 | 6,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.050 | 1.25386 | 160 | 1.60379 | 125 | 0.78181 | 38.9 | 1.2791 | 6.4 |
| .051 | .25546 | 161 | .60505 | 126 | .78219 | 38.8 | .2785 | 6.3 |
| .052 | .25707 | 161 | .60631 | 126 | .78258 | 38.8 | .2778 | 6.3 |
| .053 | .25867 | 161 | .60756 | 126 | .78297 | 38.7 | .2772 | 6.3 |
| .054 | .26028 | 161 | .60882 | 126 | .78336 | 38.6 | .2766 | 6.3 |
| 1.055 | 1.26189 | 161 | 1.61008 | 126 | 0.78374 | 38.6 | 1.2759 | 6.3 |
| .056 | .26350 | 161 | .61135 | 126 | .78413 | 38.5 | .2753 | 6.3 |
| .057 | .26511 | 161 | .61261 | 127 | .78451 | 38.4 | .2747 | 6.2 |
| .058 | .26673 | 161 | .61388 | 127 | .78490 | 38.4 | .2741 | 6.2 |
| .059 | .26834 | 162 | .61514 | 127 | .78528 | 38.3 | .2734 | 6.2 |
| 1.060 | 1.26996 | 162 | 1.61641 | 127 | 0.78566 | 38.3 | 1.2728 | 6.2 |
| .061 | .27157 | 162 | .61768 | 127 | .78605 | 38.2 | .2722 | 6.2 |
| .062 | .27319 | 162 | .61896 | 127 | .78643 | 38.2 | .2716 | 6.2 |
| .063 | .27481 | 162 | .62023 | 127 | .78681 | 38.1 | .2710 | 6.2 |
| .064 | .27643 | 162 | .62151 | 128 | .78719 | 38.0 | .2703 | 6.1 |
| 1.065 | 1.27806 | 162 | 1.62278 | 128 | 0.78757 | 38.0 | 1.2697 | 6.1 |
| .066 | .27968 | 162 | .62406 | 128 | .78795 | 37.9 | .2691 | 6.1 |
| .067 | .28130 | 163 | .62534 | 128 | .78833 | 37.9 | .2685 | 6.1 |
| .068 | .28293 | 163 | .62662 | 128 | .78871 | 37.8 | .2679 | 6.1 |
| .069 | .28456 | 163 | .62791 | 128 | .78908 | 37.7 | .2673 | 6.1 |
| 1.070 | 1.28619 | 163 | 1.62919 | 129 | 0.78946 | 37.7 | 1.2667 | 6.0 |
| .071 | .28782 | 163 | .63048 | 129 | .78984 | 37.6 | .2661 | 6.0 |
| .072 | .28945 | 163 | .63177 | 129 | .79021 | 37.6 | .2655 | 6.0 |
| .073 | .29108 | 163 | .63306 | 129 | .79059 | 37.5 | .2649 | 6.0 |
| .074 | .29271 | 163 | .63435 | 129 | .79096 | 37.4 | .2643 | 6.0 |
| 1.075 | 1.29435 | 164 | 1.63565 | 129 | 0.79134 | 37.4 | 1.2637 | 6.0 |
| .076 | .29598 | 164 | .63694 | 130 | .79171 | 37.3 | .2631 | 6.0 |
| .077 | .29762 | 164 | .63824 | 130 | .79208 | 37.3 | .2625 | 5.9 |
| .078 | .29926 | 164 | .63954 | 130 | .79246 | 37.2 | .2619 | 5.9 |
| .079 | .30090 | 164 | .64084 | 130 | .79283 | 37.1 | .2613 | 5.9 |
| 1.080 | 1.30254 | 164 | 1.64214 | 130 | 0.79320 | 37.1 | 1.2607 | 5.9 |
| .081 | .30418 | 164 | .64344 | 130 | .79357 | 37.0 | .2601 | 5.9 |
| .082 | .30583 | 164 | .64475 | 131 | .79394 | 37.0 | .2595 | 5.9 |
| .083 | .30747 | 165 | .64605 | 131 | .79431 | 36.9 | .2590 | 5.8 |
| .084 | .30912 | 165 | .64736 | 131 | .79468 | 36.8 | .2584 | 5.8 |
| 1.085 | 1.31077 | 165 | 1.64867 | 131 | 0.79505 | 36.8 | 1.2578 | 5.8 |
| .086 | .31242 | 165 | .64998 | 131 | .79541 | 36.7 | .2572 | 5.8 |
| .087 | .31407 | 165 | .65130 | 131 | .79578 | 36.7 | .2566 | 5.8 |
| .088 | .31572 | 165 | .65261 | 132 | .79615 | 36.6 | .2560 | 5.8 |
| .089 | .31737 | 165 | .65393 | 132 | .79651 | 36.6 | .2555 | 5.8 |
| 1.090 | 1.31903 | 166 | 1.65525 | 132 | 0.79688 | 36.5 | 1.2549 | 5.7 |
| .091 | .32068 | 166 | .65657 | 132 | .79724 | 36.4 | .2543 | 5.7 |
| .092 | .32234 | 166 | .65789 | 132 | .79761 | 36.4 | .2538 | 5.7 |
| .093 | .32400 | 166 | .65921 | 132 | .79797 | 36.3 | .2532 | 5.7 |
| .094 | .32566 | 166 | .66053 | 133 | .79833 | 36.3 | .2526 | 5.7 |
| 1.095 | 1.32732 | 166 | 1.66186 | 133 | 0.79870 | 36.2 | 1.2520 | 5.7 |
| .096 | .32898 | 166 | .66319 | 133 | .79906 | 36.2 | .2515 | 5.7 |
| .097 | .33065 | 166 | .66452 | 133 | .79942 | 36.1 | .2509 | 5.6 |
| .098 | .33231 | 167 | .66585 | 133 | .79978 | 36.0 | .2503 | 5.6 |
| .099 | .33398 | 167 | .66718 | 133 | .80014 | 36.0 | .2498 | 5.6 |
| 1.100 | 1.33565 | 167 | 1.66852 | 134 | 0.80050 | 35.9 | 1.2492 | 5.6 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 100 | I. 33565 | 167 | I. 66852 | 134 | 0.80050 | 35.9 | I. 2492 | 5.6 |
| .101 | .33732 | 167 | .66986 | 134 | .80086 | 35.9 | .2487 | 5.6 |
| .102 | .33899 | 167 | .67119 | 134 | .80122 | 35.8 | .2481 | 5.6 |
| .103 | .34066 | 167 | .67253 | 134 | .80157 | 35.7 | .2475 | 5.6 |
| .104 | .34233 | 167 | .67387 | 134 | .80193 | 35.7 | .2470 | 5.5 |
| I. 105 | I. 34401 | 168 | I. 67522 | 134 | 0.80229 | 35.6 | I. 2464 | 5.5 |
| .106 | .34568 | 168 | .67656 | 135 | .80264 | 35.6 | .2459 | 5.5 |
| .107 | .34736 | 168 | .67791 | 135 | .80300 | 35.5 | .2453 | 5.5 |
| .108 | .34904 | 168 | .67926 | 135 | .80335 | 35.5 | .2448 | 5.5 |
| .109 | .35072 | 168 | .68061 | 135 | .80371 | 35.4 | .2442 | 5.5 |
| I. 110 | I. 35240 | 168 | I. 68196 | 135 | 0.80406 | 35.3 | I. 2437 | 5.5 |
| .111 | .35408 | 168 | .68331 | 135 | .80442 | 35.3 | .2431 | 5.5 |
| .112 | .35577 | 168 | .68467 | 136 | .80477 | 35.2 | .2426 | 5.4 |
| .113 | .35745 | 169 | .68602 | 136 | .80512 | 35.2 | .2421 | 5.4 |
| .114 | .35914 | 169 | .68738 | 136 | .80547 | 35.1 | .2415 | 5.4 |
| I. 115 | I. 36083 | 169 | I. 68874 | 136 | 0.80582 | 35.1 | I. 2410 | 5.4 |
| .116 | .36252 | 169 | .69010 | 136 | .80617 | 35.0 | .2404 | 5.4 |
| .117 | .36421 | 169 | .69147 | 136 | .80652 | 35.0 | .2399 | 5.4 |
| .118 | .36590 | 169 | .69283 | 137 | .80687 | 34.9 | .2394 | 5.4 |
| .119 | .36759 | 169 | .69420 | 137 | .80722 | 34.8 | .2388 | 5.3 |
| I. 120 | I. 36929 | 170 | I. 69557 | 137 | 0.80757 | 34.8 | I. 2383 | 5.3 |
| .121 | .37098 | 170 | .69694 | 137 | .80792 | 34.7 | .2378 | 5.3 |
| .122 | .37268 | 170 | .69831 | 137 | .80826 | 34.7 | .2372 | 5.3 |
| .123 | .37438 | 170 | .69968 | 137 | .80861 | 34.6 | .2367 | 5.3 |
| .124 | .37608 | 170 | .70106 | 138 | .80896 | 34.6 | .2362 | 5.3 |
| I. 125 | I. 37778 | 170 | I. 70243 | 138 | 0.80930 | 34.5 | I. 2356 | 5.3 |
| .126 | .37949 | 170 | .70381 | 138 | .80965 | 34.4 | .2351 | 5.3 |
| .127 | .38119 | 171 | .70519 | 138 | .80999 | 34.4 | .2346 | 5.2 |
| .128 | .38290 | 171 | .70658 | 138 | .81033 | 34.3 | .2341 | 5.2 |
| .129 | .38460 | 171 | .70796 | 138 | .81068 | 34.3 | .2335 | 5.2 |
| I. 130 | I. 38631 | 171 | I. 70934 | 139 | 0.81102 | 34.2 | I. 2330 | 5.2 |
| .131 | .38802 | 171 | .71073 | 139 | .81136 | 34.2 | .2325 | 5.2 |
| .132 | .38973 | 171 | .71212 | 139 | .81170 | 34.1 | .2320 | 5.2 |
| .133 | .39145 | 171 | .71351 | 139 | .81204 | 34.1 | .2315 | 5.2 |
| .134 | .39316 | 171 | .71490 | 139 | .81238 | 34.0 | .2309 | 5.2 |
| I. 135 | I. 39488 | 172 | I. 71630 | 139 | 0.81272 | 33.9 | I. 2304 | 5.1 |
| .136 | .39659 | 172 | .71769 | 140 | .81306 | 33.9 | .2299 | 5.1 |
| .137 | .39831 | 172 | .71909 | 140 | .81340 | 33.8 | .2294 | 5.1 |
| .138 | .40003 | 172 | .72049 | 140 | .81374 | 33.8 | .2289 | 5.1 |
| .139 | .40175 | 172 | .72189 | 140 | .81408 | 33.7 | .2284 | 5.1 |
| I. 140 | I. 40347 | 172 | I. 72329 | 140 | 0.81441 | 33.7 | I. 2279 | 5.1 |
| .141 | .40520 | 172 | .72470 | 141 | .81475 | 33.6 | .2274 | 5.1 |
| .142 | .40692 | 173 | .72610 | 141 | .81509 | 33.6 | .2269 | 5.1 |
| .143 | .40865 | 173 | .72751 | 141 | .81542 | 33.5 | .2264 | 5.0 |
| .144 | .41038 | 173 | .72892 | 141 | .81576 | 33.5 | .2259 | 5.0 |
| I. 145 | I. 41211 | 173 | I. 73033 | 141 | 0.81609 | 33.4 | I. 2254 | 5.0 |
| .146 | .41384 | 173 | .73175 | 141 | .81642 | 33.3 | .2249 | 5.0 |
| .147 | .41557 | 173 | .73316 | 142 | .81676 | 33.3 | .2244 | 5.0 |
| .148 | .41731 | 173 | .73458 | 142 | .81709 | 33.2 | .2239 | 5.0 |
| .149 | .41904 | 174 | .73599 | 142 | .81742 | 33.2 | .2234 | 5.0 |
| I. 150 | I. 42078 | 174 | I. 73741 | 142 | 0.81775 | 33.1 | I. 2229 | 5.0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 150 | I. 42078 | 174 | I. 73741 | I 42 | 0. 81775 | 33,1 | I. 2229 | 5,0 |
| . 151 | . 42252 | 174 | . 73884 | I 42 | . 81809 | 33,1 | . 2224 | 4,9 |
| . 152 | . 42426 | 174 | . 74026 | I 42 | . 81842 | 33,0 | . 2219 | 4,9 |
| . 153 | . 42600 | 174 | . 74168 | I 43 | . 81875 | 33,0 | . 2214 | 4,9 |
| . 154 | . 42774 | 174 | . 74311 | I 43 | . 81907 | 32,9 | . 2209 | 4,9 |
| I. 155 | I. 42948 | 174 | I. 74454 | I 43 | 0. 81940 | 32,9 | I. 2204 | 4,9 |
| . 156 | . 43123 | 175 | . 74597 | I 43 | . 81973 | 32,8 | . 2199 | 4,9 |
| . 157 | . 43297 | 175 | . 74740 | I 43 | . 82006 | 32,8 | . 2194 | 4,9 |
| . 158 | . 43472 | 175 | . 74884 | I 43 | . 82039 | 32,7 | . 2189 | 4,9 |
| . 159 | . 43647 | 175 | . 75027 | I 44 | . 82071 | 32,6 | . 2185 | 4,8 |
| I. 160 | I. 43822 | 175 | I. 75171 | I 44 | 0. 82104 | 32,6 | I. 2180 | 4,8 |
| . 161 | . 43998 | 175 | . 75315 | I 44 | . 82137 | 32,5 | . 2175 | 4,8 |
| . 162 | . 44173 | 175 | . 75459 | I 44 | . 82169 | 32,5 | . 2170 | 4,8 |
| . 163 | . 44349 | 176 | . 75603 | I 44 | . 82202 | 32,4 | . 2165 | 4,8 |
| . 164 | . 44524 | 176 | . 75748 | I 45 | . 82234 | 32,4 | . 2160 | 4,8 |
| I. 165 | I. 44700 | 176 | I. 75892 | I 45 | 0. 82266 | 32,3 | I. 2156 | 4,8 |
| . 166 | . 44876 | 176 | . 76037 | I 45 | . 82299 | 32,3 | . 2151 | 4,8 |
| . 167 | . 45052 | 176 | . 76182 | I 45 | . 82331 | 32,2 | . 2146 | 4,8 |
| . 168 | . 45228 | 176 | . 76327 | I 45 | . 82363 | 32,2 | . 2141 | 4,7 |
| . 169 | . 45405 | 176 | . 76472 | I 45 | . 82395 | 32,1 | . 2137 | 4,7 |
| I. 170 | I. 45581 | 177 | I. 76618 | I 46 | 0. 82427 | 32,1 | I. 2132 | 4,7 |
| . 171 | . 45758 | 177 | . 76764 | I 46 | . 82459 | 32,0 | . 2127 | 4,7 |
| . 172 | . 45935 | 177 | . 76909 | I 46 | . 82491 | 32,0 | . 2123 | 4,7 |
| . 173 | . 46112 | 177 | . 77056 | I 46 | . 82523 | 31,9 | . 2118 | 4,7 |
| . 174 | . 46289 | 177 | . 77202 | I 46 | . 82555 | 31,8 | . 2113 | 4,7 |
| I. 175 | I. 46466 | 177 | I. 77348 | I 46 | 0. 82587 | 31,8 | I. 2108 | 4,7 |
| . 176 | . 46644 | 177 | . 77495 | I 47 | . 82619 | 31,7 | . 2104 | 4,7 |
| . 177 | . 46821 | 178 | . 77641 | I 47 | . 82650 | 31,7 | . 2099 | 4,6 |
| . 178 | . 46999 | 178 | . 77788 | I 47 | . 82682 | 31,6 | . 2095 | 4,6 |
| . 179 | . 47177 | 178 | . 77935 | I 47 | . 82714 | 31,6 | . 2090 | 4,6 |
| I. 180 | I. 47355 | 178 | I. 78083 | I 47 | 0. 82745 | 31,5 | I. 2085 | 4,6 |
| . 181 | . 47533 | 178 | . 78230 | I 48 | . 82777 | 31,5 | . 2081 | 4,6 |
| . 182 | . 47711 | 178 | . 78378 | I 48 | . 82808 | 31,4 | . 2076 | 4,6 |
| . 183 | . 47890 | 179 | . 78525 | I 48 | . 82840 | 31,4 | . 2072 | 4,6 |
| . 184 | . 48068 | 179 | . 78673 | I 48 | . 82871 | 31,3 | . 2067 | 4,6 |
| I. 185 | I. 48247 | 179 | I. 78822 | I 48 | 0. 82902 | 31,3 | I. 2062 | 4,6 |
| . 186 | . 48426 | 179 | . 78970 | I 48 | . 82933 | 31,2 | . 2058 | 4,5 |
| . 187 | . 48605 | 179 | . 79119 | I 49 | . 82965 | 31,2 | . 2053 | 4,5 |
| . 188 | . 48784 | 179 | . 79267 | I 49 | . 82996 | 31,1 | . 2049 | 4,5 |
| . 189 | . 48964 | 179 | . 79416 | I 49 | . 83027 | 31,1 | . 2044 | 4,5 |
| I. 190 | I. 49143 | 180 | I. 79565 | I 49 | 0. 83058 | 31,0 | I. 2040 | 4,5 |
| . 191 | . 49323 | 180 | . 79714 | I 49 | . 83089 | 31,0 | . 2035 | 4,5 |
| . 192 | . 49502 | 180 | . 79864 | I 50 | . 83120 | 30,9 | . 2031 | 4,5 |
| . 193 | . 49682 | 180 | . 80013 | I 50 | . 83151 | 30,9 | . 2026 | 4,5 |
| . 194 | . 49862 | 180 | . 80163 | I 50 | . 83182 | 30,8 | . 2022 | 4,5 |
| I. 195 | I. 50043 | 180 | I. 80313 | I 50 | 0. 83212 | 30,8 | I. 2017 | 4,4 |
| . 196 | . 50223 | 180 | . 80463 | I 50 | . 83243 | 30,7 | . 2013 | 4,4 |
| . 197 | . 50404 | 181 | . 80614 | I 50 | . 83274 | 30,7 | . 2009 | 4,4 |
| . 198 | . 50584 | 181 | . 80764 | I 51 | . 83304 | 30,6 | . 2004 | 4,4 |
| . 199 | . 50765 | 181 | . 80915 | I 51 | . 83335 | 30,6 | . 2000 | 4,4 |
| I. 200 | I. 50946 | 181 | I. 81066 | I 51 | 0. 83365 | 30,5 | I. 1995 | 4,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 200 | I. 50946 | 181 | I. 81066 | 151 | 0. 83365 | 30,5 | I. 1995 | 4,4 |
| . 201 | . 51127 | 181 | . 81217 | 151 | . 83396 | 30,5 | . 1991 | 4,4 |
| . 202 | . 51309 | 181 | . 81368 | 151 | . 83426 | 30,4 | . 1987 | 4,4 |
| . 203 | . 51490 | 182 | . 81519 | 151 | . 83457 | 30,3 | . 1982 | 4,4 |
| . 204 | . 51672 | 182 | . 81671 | 152 | . 83487 | 30,3 | . 1978 | 4,3 |
| I. 205 | I. 51853 | 182 | I. 81823 | 152 | 0. 83517 | 30,2 | I. 1974 | 4,3 |
| . 206 | . 52035 | 182 | . 81974 | 152 | . 83548 | 30,2 | . 1969 | 4,3 |
| . 207 | . 52217 | 182 | . 82127 | 152 | . 83578 | 30,1 | . 1965 | 4,3 |
| . 208 | . 52400 | 182 | . 82279 | 152 | . 83608 | 30,1 | . 1961 | 4,3 |
| . 209 | . 52582 | 182 | . 82431 | 153 | . 83638 | 30,0 | . 1956 | 4,3 |
| I. 210 | I. 52764 | 183 | I. 82584 | 153 | 0. 83668 | 30,0 | I. 1952 | 4,3 |
| . 211 | . 52947 | 183 | . 82737 | 153 | . 83698 | 29,9 | . 1948 | 4,3 |
| . 212 | . 53130 | 183 | . 82890 | 153 | . 83728 | 29,9 | . 1943 | 4,3 |
| . 213 | . 53313 | 183 | . 83043 | 153 | . 83758 | 29,8 | . 1939 | 4,3 |
| . 214 | . 53496 | 183 | . 83197 | 153 | . 83788 | 29,8 | . 1935 | 4,2 |
| I. 215 | I. 53679 | 183 | I. 83350 | 154 | 0. 83817 | 29,7 | I. 1931 | 4,2 |
| . 216 | . 53863 | 184 | . 83504 | 154 | . 83847 | 29,7 | . 1926 | 4,2 |
| . 217 | . 54046 | 184 | . 83658 | 154 | . 83877 | 29,6 | . 1922 | 4,2 |
| . 218 | . 54230 | 184 | . 83812 | 154 | . 83906 | 29,6 | . 1918 | 4,2 |
| . 219 | . 54414 | 184 | . 83966 | 154 | . 83936 | 29,5 | . 1914 | 4,2 |
| I. 220 | I. 54598 | 184 | I. 84121 | 155 | 0. 83965 | 29,5 | I. 1910 | 4,2 |
| . 221 | . 54782 | 184 | . 84276 | 155 | . 83995 | 29,4 | . 1905 | 4,2 |
| . 222 | . 54966 | 184 | . 84430 | 155 | . 84024 | 29,4 | . 1901 | 4,2 |
| . 223 | . 55151 | 185 | . 84586 | 155 | . 84054 | 29,3 | . 1897 | 4,2 |
| . 224 | . 55336 | 185 | . 84741 | 155 | . 84083 | 29,3 | . 1893 | 4,1 |
| I. 225 | I. 55520 | 185 | I. 84896 | 156 | 0. 84112 | 29,3 | I. 1889 | 4,1 |
| . 226 | . 55705 | 185 | . 85052 | 156 | . 84142 | 29,2 | . 1885 | 4,1 |
| . 227 | . 55891 | 185 | . 85208 | 156 | . 84171 | 29,2 | . 1881 | 4,1 |
| . 228 | . 56076 | 185 | . 85364 | 156 | . 84200 | 29,1 | . 1877 | 4,1 |
| . 229 | . 56261 | 186 | . 85520 | 156 | . 84229 | 29,1 | . 1872 | 4,1 |
| I. 230 | I. 56447 | 186 | I. 85676 | 156 | 0. 84258 | 29,0 | I. 1868 | 4,1 |
| . 231 | . 56633 | 186 | . 85833 | 157 | . 84287 | 29,0 | . 1864 | 4,1 |
| . 232 | . 56819 | 186 | . 85989 | 157 | . 84316 | 28,9 | . 1860 | 4,1 |
| . 233 | . 57005 | 186 | . 86146 | 157 | . 84345 | 28,9 | . 1856 | 4,1 |
| . 234 | . 57191 | 186 | . 86303 | 157 | . 84374 | 28,8 | . 1852 | 4,1 |
| I. 235 | I. 57377 | 186 | I. 86461 | 157 | 0. 84402 | 28,8 | I. 1848 | 4,0 |
| . 236 | . 57564 | 187 | . 86618 | 158 | . 84431 | 28,7 | . 1844 | 4,0 |
| . 237 | . 57750 | 187 | . 86776 | 158 | . 84460 | 28,7 | . 1840 | 4,0 |
| . 238 | . 57937 | 187 | . 86934 | 158 | . 84488 | 28,6 | . 1836 | 4,0 |
| . 239 | . 58124 | 187 | . 87092 | 158 | . 84517 | 28,6 | . 1832 | 4,0 |
| I. 240 | I. 58311 | 187 | I. 87250 | 158 | 0. 84546 | 28,5 | I. 1828 | 4,0 |
| . 241 | . 58499 | 187 | . 87408 | 158 | . 84574 | 28,5 | . 1824 | 4,0 |
| . 242 | . 58686 | 188 | . 87567 | 159 | . 84602 | 28,4 | . 1820 | 4,0 |
| . 243 | . 58874 | 188 | . 87726 | 159 | . 84631 | 28,4 | . 1816 | 4,0 |
| . 244 | . 59062 | 188 | . 87885 | 159 | . 84659 | 28,3 | . 1812 | 4,0 |
| I. 245 | I. 59250 | 188 | I. 88044 | 159 | 0. 84688 | 28,3 | I. 1808 | 3,9 |
| . 246 | . 59438 | 188 | . 88203 | 159 | . 84716 | 28,2 | . 1804 | 3,9 |
| . 247 | . 59626 | 188 | . 88363 | 160 | . 84744 | 28,2 | . 1800 | 3,9 |
| . 248 | . 59815 | 189 | . 88522 | 160 | . 84772 | 28,1 | . 1796 | 3,9 |
| . 249 | . 60003 | 189 | . 88682 | 160 | . 84800 | 28,1 | . 1792 | 3,9 |
| I. 250 | I. 60192 | 189 | I. 88842 | 160 | 0. 84828 | 28,0 | I. 1789 | 3,9 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|--------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| I. 250 | I. 60192 | 189 | I. 88842 | 160 | 0. 84828 | 28,0 | I. 1789 | 3,9 |
| .251 | .60381 | 189 | .89003 | 160 | .84856 | 28,0 | .1785 | 3,9 |
| .252 | .60570 | 189 | .89163 | 161 | .84884 | 27,9 | .1781 | 3,9 |
| .253 | .60759 | 189 | .89324 | 161 | .84912 | 27,9 | .1777 | 3,9 |
| .254 | .60949 | 189 | .89485 | 161 | .84940 | 27,9 | .1773 | 3,9 |
| I. 255 | I. 61138 | 190 | I. 89646 | 161 | 0. 84968 | 27,8 | I. 1769 | 3,9 |
| .256 | .61328 | 190 | .89807 | 161 | .84996 | 27,8 | .1765 | 3,8 |
| .257 | .61518 | 190 | .89968 | 162 | .85023 | 27,7 | .1761 | 3,8 |
| .258 | .61708 | 190 | .90130 | 162 | .85051 | 27,7 | .1758 | 3,8 |
| .259 | .61898 | 190 | .90292 | 162 | .85079 | 27,6 | .1754 | 3,8 |
| I. 260 | I. 62088 | 190 | I. 90454 | 162 | 0. 85106 | 27,6 | I. 1750 | 3,8 |
| .261 | .62279 | 191 | .90616 | 162 | .85134 | 27,5 | .1746 | 3,8 |
| .262 | .62470 | 191 | .90778 | 162 | .85161 | 27,5 | .1742 | 3,8 |
| .263 | .62661 | 191 | .90941 | 163 | .85189 | 27,4 | .1739 | 3,8 |
| .264 | .62851 | 191 | .91104 | 163 | .85216 | 27,4 | .1735 | 3,8 |
| I. 265 | I. 63043 | 191 | I. 91267 | 163 | 0. 85244 | 27,3 | I. 1731 | 3,8 |
| .266 | .63234 | 191 | .91430 | 163 | .85271 | 27,3 | .1727 | 3,8 |
| .267 | .63426 | 192 | .91593 | 163 | .85298 | 27,2 | .1724 | 3,7 |
| .268 | .63617 | 192 | .91757 | 164 | .85325 | 27,2 | .1720 | 3,7 |
| .269 | .63809 | 192 | .91920 | 164 | .85353 | 27,1 | .1716 | 3,7 |
| I. 270 | I. 64001 | 192 | I. 92084 | 164 | 0. 85380 | 27,1 | I. 1712 | 3,7 |
| .271 | .64193 | 192 | .92248 | 164 | .85407 | 27,1 | .1709 | 3,7 |
| .272 | .64386 | 192 | .92413 | 164 | .85434 | 27,0 | .1705 | 3,7 |
| .273 | .64578 | 193 | .92577 | 165 | .85461 | 27,0 | .1701 | 3,7 |
| .274 | .64771 | 193 | .92742 | 165 | .85488 | 26,9 | .1698 | 3,7 |
| I. 275 | I. 64964 | 193 | I. 92907 | 165 | 0. 85515 | 26,9 | I. 1694 | 3,7 |
| .276 | .65157 | 193 | .93072 | 165 | .85542 | 26,8 | .1690 | 3,7 |
| .277 | .65350 | 193 | .93237 | 165 | .85568 | 26,8 | .1687 | 3,7 |
| .278 | .65543 | 193 | .93402 | 166 | .85595 | 26,7 | .1683 | 3,6 |
| .279 | .65736 | 194 | .93568 | 166 | .85622 | 26,7 | .1679 | 3,6 |
| I. 280 | I. 65930 | 194 | I. 93734 | 166 | 0. 85648 | 26,6 | I. 1676 | 3,6 |
| .281 | .66124 | 194 | .93900 | 166 | .85675 | 26,6 | .1672 | 3,6 |
| .282 | .66318 | 194 | .94066 | 166 | .85702 | 26,6 | .1668 | 3,6 |
| .283 | .66512 | 194 | .94233 | 167 | .85728 | 26,5 | .1665 | 3,6 |
| .284 | .66706 | 194 | .94399 | 167 | .85755 | 26,5 | .1661 | 3,6 |
| I. 285 | I. 66901 | 195 | I. 94566 | 167 | 0. 85781 | 26,4 | I. 1658 | 3,6 |
| .286 | .67096 | 195 | .94733 | 167 | .85808 | 26,4 | .1654 | 3,6 |
| .287 | .67290 | 195 | .94900 | 167 | .85834 | 26,3 | .1650 | 3,6 |
| .288 | .67485 | 195 | .95068 | 167 | .85860 | 26,3 | .1647 | 3,6 |
| .289 | .67680 | 195 | .95235 | 168 | .85886 | 26,2 | .1643 | 3,6 |
| I. 290 | I. 67876 | 195 | I. 95403 | 168 | 0. 85913 | 26,2 | I. 1640 | 3,5 |
| .291 | .68071 | 196 | .95571 | 168 | .85939 | 26,1 | .1636 | 3,5 |
| .292 | .68267 | 196 | .95739 | 168 | .85965 | 26,1 | .1633 | 3,5 |
| .293 | .68463 | 196 | .95907 | 168 | .85991 | 26,1 | .1629 | 3,5 |
| .294 | .68659 | 196 | .96076 | 169 | .86017 | 26,0 | .1626 | 3,5 |
| I. 295 | I. 68855 | 196 | I. 96245 | 169 | 0. 86043 | 26,0 | I. 1622 | 3,5 |
| .296 | .69051 | 196 | .96414 | 169 | .86069 | 25,9 | .1619 | 3,5 |
| .297 | .69248 | 197 | .96583 | 169 | .86095 | 25,9 | .1615 | 3,5 |
| .298 | .69444 | 197 | .96752 | 169 | .86121 | 25,8 | .1612 | 3,5 |
| .299 | .69641 | 197 | .96922 | 170 | .86147 | 25,8 | .1608 | 3,5 |
| I. 300 | I. 69838 | 197 | I. 97091 | 170 | 0. 86172 | 25,7 | I. 1605 | 3,5 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 300 | 1.60838 | 197 | 1.97091 | 170 | 0.86172 | 25,7 | 1.1605 | 3,5 |
| .301 | .70035 | 197 | .97201 | 170 | .86198 | 25,7 | .1601 | 3,5 |
| .302 | .70233 | 197 | .97431 | 170 | .86224 | 25,7 | .1598 | 3,5 |
| .303 | .70430 | 198 | .97602 | 170 | .86249 | 25,6 | .1594 | 3,4 |
| .304 | .70628 | 198 | .97772 | 171 | .86275 | 25,6 | .1591 | 3,4 |
| I. 305 | 1.70826 | 198 | 1.97943 | 171 | 0.86300 | 25,5 | 1.1587 | 3,4 |
| .306 | .71024 | 198 | .98114 | 171 | .86326 | 25,5 | .1584 | 3,4 |
| .307 | .71222 | 198 | .98285 | 171 | .86351 | 25,4 | .1581 | 3,4 |
| .308 | .71420 | 198 | .98456 | 171 | .86377 | 25,4 | .1577 | 3,4 |
| .309 | .71619 | 199 | .98628 | 172 | .86402 | 25,3 | .1574 | 3,4 |
| I. 310 | 1.71818 | 199 | 1.98800 | 172 | 0.86428 | 25,3 | 1.1570 | 3,4 |
| .311 | .72017 | 199 | .98972 | 172 | .86453 | 25,3 | .1567 | 3,4 |
| .312 | .72216 | 199 | .99144 | 172 | .86478 | 25,2 | .1564 | 3,4 |
| .313 | .72415 | 199 | .99316 | 172 | .86503 | 25,2 | .1560 | 3,4 |
| .314 | .72614 | 199 | .99489 | 173 | .86528 | 25,1 | .1557 | 3,4 |
| I. 315 | 1.72814 | 200 | 1.99661 | 173 | 0.86554 | 25,1 | 1.1554 | 3,3 |
| .316 | .73014 | 200 | .99834 | 173 | .86579 | 25,0 | .1550 | 3,3 |
| .317 | .73214 | 200 | 2.00007 | 173 | .86604 | 25,0 | .1547 | 3,3 |
| .318 | .73414 | 200 | .00181 | 173 | .86629 | 25,0 | .1544 | 3,3 |
| .319 | .73614 | 200 | .00354 | 174 | .86653 | 24,9 | .1540 | 3,3 |
| I. 320 | 1.73814 | 201 | 2.00528 | 174 | 0.86678 | 24,9 | 1.1537 | 3,3 |
| .321 | .74015 | 201 | .00702 | 174 | .86703 | 24,8 | .1534 | 3,3 |
| .322 | .74216 | 201 | .00876 | 174 | .86728 | 24,8 | .1530 | 3,3 |
| .323 | .74417 | 201 | .01050 | 174 | .86753 | 24,7 | .1527 | 3,3 |
| .324 | .74618 | 201 | .01225 | 175 | .86778 | 24,7 | .1524 | 3,3 |
| I. 325 | 1.74819 | 201 | 2.01399 | 175 | 0.86802 | 24,7 | 1.1520 | 3,3 |
| .326 | .75021 | 202 | .01574 | 175 | .86827 | 24,6 | .1517 | 3,3 |
| .327 | .75222 | 202 | .01749 | 175 | .86851 | 24,6 | .1514 | 3,3 |
| .328 | .75424 | 202 | .01925 | 175 | .86876 | 24,5 | .1511 | 3,2 |
| .329 | .75626 | 202 | .02100 | 176 | .86900 | 24,5 | .1507 | 3,2 |
| I. 330 | 1.75828 | 202 | 2.02276 | 176 | 0.86925 | 24,4 | 1.1504 | 3,2 |
| .331 | .76031 | 202 | .02452 | 176 | .86949 | 24,4 | .1501 | 3,2 |
| .332 | .76233 | 203 | .02628 | 176 | .86974 | 24,4 | .1498 | 3,2 |
| .333 | .76436 | 203 | .02804 | 176 | .86998 | 24,3 | .1495 | 3,2 |
| .334 | .76639 | 203 | .02981 | 177 | .87022 | 24,3 | .1491 | 3,2 |
| I. 335 | 1.76842 | 203 | 2.03158 | 177 | 0.87047 | 24,2 | 1.1488 | 3,2 |
| .336 | .77045 | 203 | .03335 | 177 | .87071 | 24,2 | .1485 | 3,2 |
| .337 | .77249 | 204 | .03512 | 177 | .87095 | 24,1 | .1482 | 3,2 |
| .338 | .77452 | 204 | .03689 | 177 | .87119 | 24,1 | .1479 | 3,2 |
| .339 | .77656 | 204 | .03867 | 178 | .87143 | 24,1 | .1475 | 3,2 |
| I. 340 | 1.77860 | 204 | 2.04044 | 178 | 0.87167 | 24,0 | 1.1472 | 3,2 |
| .341 | .78064 | 204 | .04222 | 178 | .87191 | 24,0 | .1469 | 3,2 |
| .342 | .78268 | 204 | .04401 | 178 | .87215 | 23,9 | .1466 | 3,1 |
| .343 | .78473 | 205 | .04579 | 178 | .87239 | 23,9 | .1463 | 3,1 |
| .344 | .78677 | 205 | .04758 | 179 | .87263 | 23,9 | .1460 | 3,1 |
| I. 345 | 1.78882 | 205 | 2.04936 | 179 | 0.87287 | 23,8 | 1.1456 | 3,1 |
| .346 | .79087 | 205 | .05115 | 179 | .87311 | 23,8 | .1453 | 3,1 |
| .347 | .79293 | 205 | .05294 | 179 | .87334 | 23,7 | .1450 | 3,1 |
| .348 | .79498 | 205 | .05474 | 179 | .87358 | 23,7 | .1447 | 3,1 |
| .349 | .79704 | 206 | .05653 | 180 | .87382 | 23,6 | .1444 | 3,1 |
| I. 350 | 1.79909 | 206 | 2.05833 | 180 | 0.87405 | 23,6 | 1.1441 | 3,1 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|--------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| I. 350 | 1.79909 | 206 | 2.05833 | 180 | 0.87405 | 23,6 | 1.1441 | 3,1 |
| .351 | .80115 | 206 | .06013 | 180 | .87429 | 23,6 | .1438 | 3,1 |
| .352 | .80321 | 206 | .06194 | 180 | .87452 | 23,5 | .1435 | 3,1 |
| .353 | .80528 | 206 | .06374 | 181 | .87476 | 23,5 | .1432 | 3,1 |
| .354 | .80734 | 207 | .06555 | 181 | .87499 | 23,4 | .1429 | 3,1 |
| I. 355 | 1.80941 | 207 | 2.06735 | 181 | 0.87523 | 23,4 | 1.1426 | 3,1 |
| .356 | .81148 | 207 | .06916 | 181 | .87546 | 23,4 | .1423 | 3,0 |
| .357 | .81355 | 207 | .07098 | 181 | .87570 | 23,3 | .1419 | 3,0 |
| .358 | .81562 | 207 | .07279 | 182 | .87593 | 23,3 | .1416 | 3,0 |
| .359 | .81769 | 207 | .07461 | 182 | .87616 | 23,2 | .1413 | 3,0 |
| I. 360 | 1.81977 | 208 | 2.07643 | 182 | 0.87639 | 23,2 | 1.1410 | 3,0 |
| .361 | .82184 | 208 | .07825 | 182 | .87662 | 23,2 | .1407 | 3,0 |
| .362 | .82392 | 208 | .08007 | 182 | .87686 | 23,1 | .1404 | 3,0 |
| .363 | .82600 | 208 | .08190 | 183 | .87709 | 23,1 | .1401 | 3,0 |
| .364 | .82809 | 208 | .08372 | 183 | .87732 | 23,0 | .1398 | 3,0 |
| I. 365 | 1.83017 | 209 | 2.08555 | 183 | 0.87755 | 23,0 | 1.1395 | 3,0 |
| .366 | .83226 | 209 | .08738 | 183 | .87778 | 23,0 | .1392 | 3,0 |
| .367 | .83435 | 209 | .08922 | 183 | .87801 | 22,9 | .1389 | 3,0 |
| .368 | .83644 | 209 | .09105 | 184 | .87824 | 22,9 | .1386 | 3,0 |
| .369 | .83853 | 209 | .09289 | 184 | .87846 | 22,8 | .1384 | 3,0 |
| I. 370 | 1.84062 | 209 | 2.09473 | 184 | 0.87869 | 22,8 | 1.1381 | 3,0 |
| .371 | .84272 | 210 | .09657 | 184 | .87892 | 22,7 | .1378 | 2,9 |
| .372 | .84482 | 210 | .09841 | 184 | .87915 | 22,7 | .1375 | 2,9 |
| .373 | .84691 | 210 | .10026 | 185 | .87937 | 22,7 | .1372 | 2,9 |
| .374 | .84902 | 210 | .10211 | 185 | .87960 | 22,6 | .1369 | 2,9 |
| I. 375 | 1.85112 | 210 | 2.10396 | 185 | 0.87983 | 22,6 | 1.1366 | 2,9 |
| .376 | .85322 | 211 | .10581 | 185 | .88005 | 22,6 | .1363 | 2,9 |
| .377 | .85533 | 211 | .10766 | 186 | .88028 | 22,5 | .1360 | 2,9 |
| .378 | .85744 | 211 | .10952 | 186 | .88050 | 22,5 | .1357 | 2,9 |
| .379 | .85955 | 211 | .11138 | 186 | .88073 | 22,4 | .1354 | 2,9 |
| I. 380 | 1.86166 | 211 | 2.11324 | 186 | 0.88095 | 22,4 | 1.1351 | 2,9 |
| .381 | .86378 | 212 | .11510 | 186 | .88117 | 22,4 | .1348 | 2,9 |
| .382 | .86589 | 212 | .11697 | 187 | .88140 | 22,3 | .1346 | 2,9 |
| .383 | .86801 | 212 | .11883 | 187 | .88162 | 22,3 | .1343 | 2,9 |
| .384 | .87013 | 212 | .12070 | 187 | .88184 | 22,2 | .1340 | 2,9 |
| I. 385 | 1.87225 | 212 | 2.12257 | 187 | 0.88207 | 22,2 | 1.1337 | 2,9 |
| .386 | .87437 | 212 | .12445 | 187 | .88229 | 22,2 | .1334 | 2,8 |
| .387 | .87650 | 213 | .12632 | 188 | .88251 | 22,1 | .1331 | 2,8 |
| .388 | .87863 | 213 | .12820 | 188 | .88273 | 22,1 | .1328 | 2,8 |
| .389 | .88076 | 213 | .13008 | 188 | .88295 | 22,0 | .1326 | 2,8 |
| I. 390 | 1.88289 | 213 | 2.13196 | 188 | 0.88317 | 22,0 | 1.1323 | 2,8 |
| .391 | .88502 | 213 | .13385 | 189 | .88339 | 22,0 | .1320 | 2,8 |
| .392 | .88716 | 214 | .13573 | 189 | .88361 | 21,9 | .1317 | 2,8 |
| .393 | .88929 | 214 | .13762 | 189 | .88383 | 21,9 | .1314 | 2,8 |
| .394 | .89143 | 214 | .13951 | 189 | .88405 | 21,8 | .1312 | 2,8 |
| I. 395 | 1.89357 | 214 | 2.14140 | 189 | 0.88427 | 21,8 | 1.1309 | 2,8 |
| .396 | .89571 | 214 | .14330 | 190 | .88448 | 21,8 | .1306 | 2,8 |
| .397 | .89786 | 215 | .14520 | 190 | .88470 | 21,7 | .1303 | 2,8 |
| .398 | .90000 | 215 | .14709 | 190 | .88492 | 21,7 | .1300 | 2,8 |
| .399 | .90215 | 215 | .14900 | 190 | .88513 | 21,7 | .1298 | 2,8 |
| I. 400 | 1.90430 | 215 | 2.15090 | 190 | 0.88535 | 21,6 | 1.1295 | 2,8 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 400 | I. 90430 | 215 | 2. 15090 | 190 | 0. 88535 | 21,6 | I. 1295 | 2,8 |
| .401 | .90645 | 215 | . 15280 | 191 | . 88557 | 21,6 | . 1292 | 2,8 |
| .402 | .90861 | 215 | . 15471 | 191 | . 88578 | 21,5 | . 1289 | 2,7 |
| .403 | .91076 | 216 | . 15662 | 191 | . 88600 | 21,5 | . 1287 | 2,7 |
| .404 | .91292 | 216 | . 15853 | 191 | . 88621 | 21,5 | . 1284 | 2,7 |
| I. 405 | I. 91508 | 216 | 2. 16045 | 192 | 0. 88643 | 21,4 | I. 1281 | 2,7 |
| .406 | .91724 | 216 | . 16236 | 192 | . 88664 | 21,4 | . 1279 | 2,7 |
| .407 | .91940 | 216 | . 16428 | 192 | . 88686 | 21,3 | . 1276 | 2,7 |
| .408 | .92157 | 217 | . 16620 | 192 | . 88707 | 21,3 | . 1273 | 2,7 |
| .409 | .92374 | 217 | . 16812 | 192 | . 88728 | 21,3 | . 1270 | 2,7 |
| I. 410 | I. 92591 | 217 | 2. 17005 | 193 | 0. 88749 | 21,2 | I. 1268 | 2,7 |
| .411 | .92808 | 217 | . 17198 | 193 | . 88771 | 21,2 | . 1265 | 2,7 |
| .412 | .93025 | 217 | . 17391 | 193 | . 88792 | 21,2 | . 1262 | 2,7 |
| .413 | .93242 | 218 | . 17584 | 193 | . 88813 | 21,1 | . 1260 | 2,7 |
| .414 | .93460 | 218 | . 17777 | 193 | . 88834 | 21,1 | . 1257 | 2,7 |
| I. 415 | I. 93678 | 218 | 2. 17971 | 194 | 0. 88855 | 21,0 | I. 1254 | 2,7 |
| .416 | .93896 | 218 | . 18164 | 194 | . 88877 | 21,0 | . 1252 | 2,7 |
| .417 | .94114 | 218 | . 18358 | 194 | . 88897 | 21,0 | . 1249 | 2,7 |
| .418 | .94333 | 219 | . 18553 | 194 | . 88918 | 20,9 | . 1246 | 2,6 |
| .419 | .94551 | 219 | . 18747 | 195 | . 88939 | 20,9 | . 1244 | 2,6 |
| I. 420 | I. 94770 | 219 | 2. 18942 | 195 | 0. 88960 | 20,9 | I. 1241 | 2,6 |
| .421 | .94989 | 219 | . 19137 | 195 | . 88981 | 20,8 | . 1238 | 2,6 |
| .422 | .95209 | 219 | . 19332 | 195 | . 89002 | 20,8 | . 1236 | 2,6 |
| .423 | .95428 | 220 | . 19527 | 195 | . 89022 | 20,8 | . 1233 | 2,6 |
| .424 | .95648 | 220 | . 19723 | 196 | . 89043 | 20,7 | . 1231 | 2,6 |
| I. 425 | I. 95867 | 220 | 2. 19918 | 196 | 0. 89064 | 20,7 | I. 1228 | 2,6 |
| .426 | .96087 | 220 | . 20114 | 196 | . 89084 | 20,6 | . 1225 | 2,6 |
| .427 | .96308 | 220 | . 20310 | 196 | . 89105 | 20,6 | . 1223 | 2,6 |
| .428 | .96528 | 221 | . 20507 | 197 | . 89126 | 20,6 | . 1220 | 2,6 |
| .429 | .96749 | 221 | . 20704 | 197 | . 89146 | 20,5 | . 1218 | 2,6 |
| I. 430 | I. 96970 | 221 | 2. 20900 | 197 | 0. 89167 | 20,5 | I. 1215 | 2,6 |
| .431 | .97191 | 221 | . 21097 | 197 | . 89187 | 20,5 | . 1212 | 2,6 |
| .432 | .97412 | 221 | . 21295 | 197 | . 89208 | 20,4 | . 1210 | 2,6 |
| .433 | .97633 | 221 | . 21492 | 198 | . 89228 | 20,4 | . 1207 | 2,6 |
| .434 | .97855 | 222 | . 21690 | 198 | . 89248 | 20,3 | . 1205 | 2,6 |
| I. 435 | I. 98076 | 222 | 2. 21888 | 198 | 0. 89269 | 20,3 | I. 1202 | 2,5 |
| .436 | .98298 | 222 | . 22086 | 198 | . 89289 | 20,3 | . 1200 | 2,5 |
| .437 | .98521 | 222 | . 22285 | 199 | . 89309 | 20,2 | . 1197 | 2,5 |
| .438 | .98743 | 222 | . 22483 | 199 | . 89329 | 20,2 | . 1195 | 2,5 |
| .439 | .98966 | 223 | . 22682 | 199 | . 89350 | 20,2 | . 1192 | 2,5 |
| I. 440 | I. 99188 | 223 | 2. 22881 | 199 | 0. 89370 | 20,1 | I. 1189 | 2,5 |
| .441 | .99411 | 223 | . 23080 | 199 | . 89390 | 20,1 | . 1187 | 2,5 |
| .442 | .99635 | 223 | . 23280 | 200 | . 89410 | 20,1 | . 1184 | 2,5 |
| .443 | .99858 | 223 | . 23480 | 200 | . 89430 | 20,0 | . 1182 | 2,5 |
| .444 | 2. 00082 | 224 | . 23680 | 200 | . 89450 | 20,0 | . 1179 | 2,5 |
| I. 445 | 2. 00305 | 224 | 2. 23880 | 200 | 0. 89470 | 20,0 | I. 1177 | 2,5 |
| .446 | .00529 | 224 | . 24080 | 201 | . 89490 | 19,9 | . 1174 | 2,5 |
| .447 | .00753 | 224 | . 24281 | 201 | . 89510 | 19,9 | . 1172 | 2,5 |
| .448 | .00978 | 224 | . 24482 | 201 | . 89530 | 19,8 | . 1169 | 2,5 |
| .449 | .01202 | 225 | . 24683 | 201 | . 89550 | 19,8 | . 1167 | 2,5 |
| I. 450 | 2. 01427 | 225 | 2. 24884 | 201 | 0. 89569 | 19,8 | I. 1165 | 2,5 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 450 | 2.01427 | 225 | 2.24884 | 201 | 0.89569 | 19,8 | I. 1165 | 2,5 |
| .451 | .01652 | 225 | .25086 | 202 | .89589 | 19,7 | .1162 | 2,5 |
| .452 | .01877 | 225 | .25288 | 202 | .89609 | 19,7 | .1160 | 2,5 |
| .453 | .02103 | 225 | .25490 | 202 | .89628 | 19,7 | .1157 | 2,4 |
| .454 | .02328 | 226 | .25692 | 202 | .89648 | 19,6 | .1155 | 2,4 |
| I. 455 | 2.02554 | 226 | 2.25804 | 203 | 0.89668 | 19,6 | I. 1152 | 2,4 |
| .456 | .02780 | 226 | .26097 | 203 | .89687 | 19,6 | .1150 | 2,4 |
| .457 | .03006 | 226 | .26300 | 203 | .89707 | 19,5 | .1147 | 2,4 |
| .458 | .03233 | 227 | .26503 | 203 | .89726 | 19,5 | .1145 | 2,4 |
| .459 | .03459 | 227 | .26706 | 203 | .89746 | 19,5 | .1143 | 2,4 |
| I. 460 | 2.03686 | 227 | 2.26910 | 204 | 0.89765 | 19,4 | I. 1140 | 2,4 |
| .461 | .03913 | 227 | .27114 | 204 | .89785 | 19,4 | .1138 | 2,4 |
| .462 | .04140 | 227 | .27318 | 204 | .89804 | 19,4 | .1135 | 2,4 |
| .463 | .04368 | 228 | .27522 | 204 | .89823 | 19,3 | .1133 | 2,4 |
| .464 | .04595 | 228 | .27726 | 205 | .89843 | 19,3 | .1131 | 2,4 |
| I. 465 | 2.04823 | 228 | 2.27931 | 205 | 0.89862 | 19,2 | I. 1128 | 2,4 |
| .466 | .05051 | 228 | .28136 | 205 | .89881 | 19,2 | .1126 | 2,4 |
| .467 | .05280 | 228 | .28341 | 205 | .89900 | 19,2 | .1123 | 2,4 |
| .468 | .05508 | 229 | .28547 | 206 | .89920 | 19,1 | .1121 | 2,4 |
| .469 | .05737 | 229 | .28752 | 206 | .89939 | 19,1 | .1119 | 2,4 |
| I. 470 | 2.05965 | 229 | 2.28958 | 206 | 0.89958 | 19,1 | I. 1116 | 2,4 |
| .471 | .06195 | 229 | .29164 | 206 | .89977 | 19,0 | .1114 | 2,4 |
| .472 | .06424 | 229 | .29370 | 206 | .89996 | 19,0 | .1112 | 2,3 |
| .473 | .06653 | 230 | .29577 | 207 | .90015 | 19,0 | .1109 | 2,3 |
| .474 | .06883 | 230 | .29784 | 207 | .90034 | 18,9 | .1107 | 2,3 |
| I. 475 | 2.07113 | 230 | 2.29991 | 207 | 0.90053 | 18,9 | I. 1105 | 2,3 |
| .476 | .07343 | 230 | .30198 | 207 | .90072 | 18,9 | .1102 | 2,3 |
| .477 | .07573 | 230 | .30405 | 208 | .90090 | 18,8 | .1100 | 2,3 |
| .478 | .07804 | 231 | .30613 | 208 | .90109 | 18,8 | .1098 | 2,3 |
| .479 | .08034 | 231 | .30821 | 208 | .90128 | 18,8 | .1095 | 2,3 |
| I. 480 | 2.08265 | 231 | 2.31029 | 208 | 0.90147 | 18,7 | I. 1093 | 2,3 |
| .481 | .08497 | 231 | .31238 | 208 | .90166 | 18,7 | .1091 | 2,3 |
| .482 | .08728 | 231 | .31446 | 209 | .90184 | 18,7 | .1088 | 2,3 |
| .483 | .08959 | 232 | .31655 | 209 | .90203 | 18,6 | .1086 | 2,3 |
| .484 | .09191 | 232 | .31864 | 209 | .90221 | 18,6 | .1084 | 2,3 |
| I. 485 | 2.09423 | 232 | 2.32073 | 209 | 0.90240 | 18,6 | I. 1082 | 2,3 |
| .486 | .09655 | 232 | .32283 | 210 | .90259 | 18,5 | .1079 | 2,3 |
| .487 | .09888 | 232 | .32493 | 210 | .90277 | 18,5 | .1077 | 2,3 |
| .488 | .10120 | 233 | .32703 | 210 | .90296 | 18,5 | .1075 | 2,3 |
| .489 | .10353 | 233 | .32913 | 210 | .90314 | 18,4 | .1072 | 2,3 |
| I. 490 | 2.10586 | 233 | 2.33123 | 211 | 0.90332 | 18,4 | I. 1070 | 2,3 |
| .491 | .10819 | 233 | .33334 | 211 | .90351 | 18,4 | .1068 | 2,2 |
| .492 | .11053 | 234 | .33545 | 211 | .90369 | 18,3 | .1066 | 2,2 |
| .493 | .11286 | 234 | .33756 | 211 | .90388 | 18,3 | .1063 | 2,2 |
| .494 | .11520 | 234 | .33968 | 212 | .90406 | 18,3 | .1061 | 2,2 |
| I. 495 | 2.11754 | 234 | 2.34179 | 212 | 0.90424 | 18,2 | I. 1059 | 2,2 |
| .496 | .11989 | 234 | .34391 | 212 | .90442 | 18,2 | .1057 | 2,2 |
| .497 | .12223 | 235 | .34603 | 212 | .90460 | 18,2 | .1055 | 2,2 |
| .498 | .12458 | 235 | .34816 | 212 | .90479 | 18,1 | .1052 | 2,2 |
| .499 | .12693 | 235 | .35028 | 213 | .90497 | 18,1 | .1050 | 2,2 |
| I. 500 | 2.12928 | 235 | 2.35241 | 213 | 0.90515 | 18,1 | I. 1048 | 2,2 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 500 | 2.12928 | 235 | 2.35241 | 213 | 0.90515 | 18.1 | I. 1048 | 2,2 |
| .501 | .13163 | 235 | .35454 | 213 | .90533 | 18,0 | .1046 | 2,2 |
| .502 | .13399 | 236 | .35667 | 213 | .90551 | 18,0 | .1044 | 2,2 |
| .503 | .13635 | 236 | .35881 | 214 | .90569 | 18,0 | .1041 | 2,2 |
| .504 | .13871 | 236 | .36095 | 214 | .90587 | 17,9 | .1039 | 2,2 |
| I. 505 | 2.14107 | 236 | 2.36309 | 214 | 0.90605 | 17,9 | I. 1037 | 2,2 |
| .506 | .14343 | 237 | .36523 | 214 | .90623 | 17,9 | .1035 | 2,2 |
| .507 | .14580 | 237 | .36737 | 215 | .90641 | 17,8 | .1033 | 2,2 |
| .508 | .14817 | 237 | .36952 | 215 | .90658 | 17,8 | .1030 | 2,2 |
| .509 | .15054 | 237 | .37167 | 215 | .90676 | 17,8 | .1028 | 2,2 |
| I. 510 | 2.15291 | 237 | 2.37382 | 215 | 0.90694 | 17,7 | I. 1026 | 2,2 |
| .511 | .15529 | 238 | .37597 | 216 | .90712 | 17,7 | .1024 | 2,2 |
| .512 | .15766 | 238 | .37813 | 216 | .90729 | 17,7 | .1022 | 2,1 |
| .513 | .16004 | 238 | .38029 | 216 | .90747 | 17,6 | .1020 | 2,1 |
| .514 | .16242 | 238 | .38245 | 216 | .90765 | 17,6 | .1018 | 2,1 |
| I. 515 | 2.16481 | 238 | 2.38461 | 216 | 0.90782 | 17,6 | I. 1015 | 2,1 |
| .516 | .16719 | 239 | .38678 | 217 | .90800 | 17,6 | .1013 | 2,1 |
| .517 | .16958 | 239 | .38895 | 217 | .90817 | 17,5 | .1011 | 2,1 |
| .518 | .17197 | 239 | .39112 | 217 | .90835 | 17,5 | .1009 | 2,1 |
| .519 | .17436 | 239 | .39329 | 217 | .90852 | 17,5 | .1007 | 2,1 |
| I. 520 | 2.17676 | 240 | 2.39547 | 218 | 0.90870 | 17,4 | I. 1005 | 2,1 |
| .521 | .17915 | 240 | .39765 | 218 | .90887 | 17,4 | .1003 | 2,1 |
| .522 | .18155 | 240 | .39983 | 218 | .90905 | 17,4 | .1001 | 2,1 |
| .523 | .18395 | 240 | .40201 | 218 | .90922 | 17,3 | .0998 | 2,1 |
| .524 | .18636 | 240 | .40419 | 219 | .90939 | 17,3 | .0996 | 2,1 |
| I. 525 | 2.18876 | 241 | 2.40638 | 219 | 0.90957 | 17,3 | I. 0994 | 2,1 |
| .526 | .19117 | 241 | .40857 | 219 | .90974 | 17,2 | .0992 | 2,1 |
| .527 | .19358 | 241 | .41076 | 219 | .90991 | 17,2 | .0990 | 2,1 |
| .528 | .19599 | 241 | .41296 | 220 | .91008 | 17,2 | .0988 | 2,1 |
| .529 | .19840 | 242 | .41516 | 220 | .91025 | 17,1 | .0986 | 2,1 |
| I. 530 | 2.20082 | 242 | 2.41736 | 220 | 0.91042 | 17,1 | I. 0984 | 2,1 |
| .531 | .20324 | 242 | .41956 | 220 | .91060 | 17,1 | .0982 | 2,1 |
| .532 | .20566 | 242 | .42176 | 221 | .91077 | 17,1 | .0980 | 2,1 |
| .533 | .20808 | 242 | .42397 | 221 | .91094 | 17,0 | .0978 | 2,1 |
| .534 | .21051 | 243 | .42618 | 221 | .91111 | 17,0 | .0976 | 2,0 |
| I. 535 | 2.21293 | 243 | 2.42839 | 221 | 0.91128 | 17,0 | I. 0974 | 2,0 |
| .536 | .21536 | 243 | .43060 | 222 | .91145 | 16,9 | .0972 | 2,0 |
| .537 | .21780 | 243 | .43282 | 222 | .91161 | 16,9 | .0970 | 2,0 |
| .538 | .22023 | 244 | .43504 | 222 | .91178 | 16,9 | .0968 | 2,0 |
| .539 | .22267 | 244 | .43726 | 222 | .91195 | 16,8 | .0965 | 2,0 |
| I. 540 | 2.22510 | 244 | 2.43949 | 223 | 0.91212 | 16,8 | I. 0963 | 2,0 |
| .541 | .22755 | 244 | .44171 | 223 | .91229 | 16,8 | .0961 | 2,0 |
| .542 | .22999 | 244 | .44394 | 223 | .91246 | 16,7 | .0959 | 2,0 |
| .543 | .23243 | 245 | .44617 | 223 | .91262 | 16,7 | .0957 | 2,0 |
| .544 | .23488 | 245 | .44841 | 223 | .91279 | 16,7 | .0955 | 2,0 |
| I. 545 | 2.23733 | 245 | 2.45064 | 224 | 0.91296 | 16,7 | I. 0953 | 2,0 |
| .546 | .23978 | 245 | .45288 | 224 | .91312 | 16,6 | .0951 | 2,0 |
| .547 | .24224 | 246 | .45512 | 224 | .91329 | 16,6 | .0949 | 2,0 |
| .548 | .24469 | 246 | .45736 | 224 | .91345 | 16,6 | .0947 | 2,0 |
| *. 549 | .24715 | 246 | .45961 | 225 | .91362 | 16,5 | .0945 | 2,0 |
| I. 550 | 2.24961 | 246 | 2.46186 | 225 | 0.91379 | 16,5 | I. 0943 | 2,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.550 | 2.24961 | 246 | 2.46186 | 225 | 0.91379 | 16,5 | 1.0943 | 2,0 |
| .551 | .25207 | 246 | .46411 | 225 | .91395 | 16,5 | .0942 | 2,0 |
| .552 | .25454 | 247 | .46636 | 225 | .91411 | 16,4 | .0940 | 2,0 |
| .553 | .25701 | 247 | .46862 | 226 | .91428 | 16,4 | .0938 | 2,0 |
| .554 | .25948 | 247 | .47088 | 226 | .91444 | 16,4 | .0936 | 2,0 |
| 1.555 | 2.26195 | 247 | 2.47314 | 226 | 0.91461 | 16,3 | 1.0934 | 2,0 |
| .556 | .26442 | 248 | .47540 | 226 | .91477 | 16,3 | .0932 | 2,0 |
| .557 | .26690 | 248 | .47767 | 227 | .91493 | 16,3 | .0930 | 1,9 |
| .558 | .26938 | 248 | .47993 | 227 | .91510 | 16,3 | .0928 | 1,9 |
| .559 | .27185 | 248 | .48221 | 227 | .91526 | 16,2 | .0926 | 1,9 |
| 1.560 | 2.27434 | 248 | 2.48448 | 227 | 0.91542 | 16,2 | 1.0924 | 1,9 |
| .561 | .27683 | 249 | .48675 | 228 | .91558 | 16,2 | .0922 | 1,9 |
| .562 | .27932 | 249 | .48903 | 228 | .91574 | 16,1 | .0920 | 1,9 |
| .563 | .28181 | 249 | .49131 | 228 | .91591 | 16,1 | .0918 | 1,9 |
| .564 | .28430 | 249 | .49360 | 228 | .91607 | 16,1 | .0916 | 1,9 |
| 1.565 | 2.28679 | 250 | 2.49588 | 229 | 0.91623 | 16,1 | 1.0914 | 1,9 |
| .566 | .28929 | 250 | .49817 | 229 | .91639 | 16,0 | .0912 | 1,9 |
| .567 | .29179 | 250 | .50046 | 229 | .91655 | 16,0 | .0911 | 1,9 |
| .568 | .29429 | 250 | .50275 | 229 | .91671 | 16,0 | .0909 | 1,9 |
| .569 | .29680 | 251 | .50505 | 230 | .91687 | 15,9 | .0907 | 1,9 |
| 1.570 | 2.29930 | 251 | 2.50735 | 230 | 0.91703 | 15,9 | 1.0905 | 1,9 |
| .571 | .30181 | 251 | .50965 | 230 | .91718 | 15,9 | .0903 | 1,9 |
| .572 | .30432 | 251 | .51195 | 230 | .91734 | 15,8 | .0901 | 1,9 |
| .573 | .30683 | 251 | .51426 | 231 | .91750 | 15,8 | .0899 | 1,9 |
| .574 | .30935 | 252 | .51656 | 231 | .91766 | 15,8 | .0897 | 1,9 |
| 1.575 | 2.31187 | 252 | 2.51887 | 231 | 0.91782 | 15,8 | 1.0895 | 1,9 |
| .576 | .31439 | 252 | .52119 | 231 | .91797 | 15,7 | .0894 | 1,9 |
| .577 | .31691 | 252 | .52350 | 232 | .91813 | 15,7 | .0892 | 1,9 |
| .578 | .31943 | 253 | .52582 | 232 | .91829 | 15,7 | .0890 | 1,9 |
| .579 | .32196 | 253 | .52814 | 232 | .91845 | 15,6 | .0888 | 1,9 |
| 1.580 | 2.32449 | 253 | 2.53047 | 232 | 0.91860 | 15,6 | 1.0886 | 1,9 |
| .581 | .32702 | 253 | .53279 | 233 | .91876 | 15,6 | .0884 | 1,8 |
| .582 | .32956 | 254 | .53512 | 233 | .91891 | 15,6 | .0882 | 1,8 |
| .583 | .33209 | 254 | .53745 | 233 | .91907 | 15,5 | .0881 | 1,8 |
| .584 | .33463 | 254 | .53978 | 233 | .91922 | 15,5 | .0879 | 1,8 |
| 1.585 | 2.33717 | 254 | 2.54212 | 234 | 0.91938 | 15,5 | 1.0877 | 1,8 |
| .586 | .33972 | 254 | .54446 | 234 | .91953 | 15,4 | .0875 | 1,8 |
| .587 | .34226 | 255 | .54680 | 234 | .91969 | 15,4 | .0873 | 1,8 |
| .588 | .34481 | 255 | .54914 | 234 | .91984 | 15,4 | .0871 | 1,8 |
| .589 | .34736 | 255 | .55149 | 235 | .92000 | 15,4 | .0870 | 1,8 |
| 1.590 | 2.34991 | 255 | 2.55384 | 235 | 0.92015 | 15,3 | 1.0868 | 1,8 |
| .591 | .35247 | 256 | .55619 | 235 | .92030 | 15,3 | .0866 | 1,8 |
| .592 | .35502 | 256 | .55854 | 236 | .92046 | 15,3 | .0864 | 1,8 |
| .593 | .35758 | 256 | .56090 | 236 | .92061 | 15,2 | .0862 | 1,8 |
| .594 | .36015 | 256 | .56326 | 236 | .92076 | 15,2 | .0861 | 1,8 |
| 1.595 | 2.36271 | 257 | 2.56562 | 236 | 0.92091 | 15,2 | 1.0859 | 1,8 |
| .596 | .36528 | 257 | .56798 | 237 | .92106 | 15,2 | .0857 | 1,8 |
| .597 | .36785 | 257 | .57035 | 237 | .92122 | 15,1 | .0855 | 1,8 |
| .598 | .37042 | 257 | .57272 | 237 | .92137 | 15,1 | .0853 | 1,8 |
| .599 | .37299 | 258 | .57509 | 237 | .92152 | 15,1 | .0852 | 1,8 |
| 1.600 | 2.37557 | 258 | 2.57746 | 238 | 0.92167 | 15,1 | 1.0850 | 1,8 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|-------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 1.600 | 2.37557 | 258 | 2.57746 | 238 | 0.92167 | 15,1 | 1.0850 | 1,8 |
| .601 | .37815 | 258 | .57984 | 238 | .92182 | 15,0 | .0848 | 1,8 |
| .602 | .38073 | 258 | .58222 | 238 | .92197 | 15,0 | .0846 | 1,8 |
| .603 | .38331 | 258 | .58460 | 238 | .92212 | 15,0 | .0845 | 1,8 |
| .604 | .38590 | 259 | .58699 | 239 | .92227 | 14,9 | .0843 | 1,8 |
| 1.605 | 2.38849 | 259 | 2.58937 | 239 | 0.92242 | 14,9 | 1.0841 | 1,8 |
| .606 | .39108 | 259 | .59176 | 239 | .92257 | 14,9 | .0839 | 1,7 |
| .607 | .39367 | 259 | .59416 | 239 | .92272 | 14,9 | .0838 | 1,7 |
| .608 | .39626 | 260 | .59655 | 240 | .92286 | 14,8 | .0836 | 1,7 |
| .609 | .39886 | 260 | .59895 | 240 | .92301 | 14,8 | .0834 | 1,7 |
| 1.610 | 2.40146 | 260 | 2.60135 | 240 | 0.92316 | 14,8 | 1.0832 | 1,7 |
| .611 | .40406 | 260 | .60375 | 240 | .92331 | 14,8 | .0831 | 1,7 |
| .612 | .40667 | 261 | .60616 | 241 | .92346 | 14,7 | .0829 | 1,7 |
| .613 | .40928 | 261 | .60857 | 241 | .92360 | 14,7 | .0827 | 1,7 |
| .614 | .41189 | 261 | .61098 | 241 | .92375 | 14,7 | .0825 | 1,7 |
| 1.615 | 2.41450 | 261 | 2.61339 | 241 | 0.92390 | 14,6 | 1.0824 | 1,7 |
| .616 | .41711 | 262 | .61581 | 242 | .92404 | 14,6 | .0822 | 1,7 |
| .617 | .41973 | 262 | .61822 | 242 | .92419 | 14,6 | .0820 | 1,7 |
| .618 | .42235 | 262 | .62064 | 242 | .92433 | 14,6 | .0819 | 1,7 |
| .619 | .42497 | 262 | .62307 | 242 | .92448 | 14,5 | .0817 | 1,7 |
| 1.620 | 2.42760 | 263 | 2.62549 | 243 | 0.92462 | 14,5 | 1.0815 | 1,7 |
| .621 | .43022 | 263 | .62792 | 243 | .92477 | 14,5 | .0814 | 1,7 |
| .622 | .43285 | 263 | .63035 | 243 | .92491 | 14,5 | .0812 | 1,7 |
| .623 | .43548 | 263 | .63279 | 244 | .92506 | 14,4 | .0810 | 1,7 |
| .624 | .43812 | 264 | .63522 | 244 | .92520 | 14,4 | .0808 | 1,7 |
| 1.625 | 2.44075 | 264 | 2.63767 | 244 | 0.92535 | 14,4 | 1.0807 | 1,7 |
| .626 | .44339 | 264 | .64011 | 244 | .92549 | 14,3 | .0805 | 1,7 |
| .627 | .44603 | 264 | .64255 | 245 | .92563 | 14,3 | .0803 | 1,7 |
| .628 | .44868 | 264 | .64500 | 245 | .92578 | 14,3 | .0802 | 1,7 |
| .629 | .45132 | 265 | .64745 | 245 | .92592 | 14,3 | .0800 | 1,7 |
| 1.630 | 2.45397 | 265 | 2.64990 | 245 | 0.92606 | 14,2 | 1.0798 | 1,7 |
| .631 | .45662 | 265 | .65236 | 246 | .92620 | 14,2 | .0797 | 1,7 |
| .632 | .45928 | 265 | .65482 | 246 | .92635 | 14,2 | .0795 | 1,7 |
| .633 | .46193 | 266 | .65728 | 246 | .92649 | 14,2 | .0793 | 1,6 |
| .634 | .46459 | 266 | .65974 | 246 | .92663 | 14,1 | .0792 | 1,6 |
| 1.635 | 2.46725 | 266 | 2.66221 | 247 | 0.92677 | 14,1 | 1.0790 | 1,6 |
| .636 | .46992 | 266 | .66467 | 247 | .92691 | 14,1 | .0789 | 1,6 |
| .637 | .47258 | 267 | .66715 | 247 | .92705 | 14,1 | .0787 | 1,6 |
| .638 | .47525 | 267 | .66962 | 248 | .92719 | 14,0 | .0785 | 1,6 |
| .639 | .47792 | 267 | .67210 | 248 | .92733 | 14,0 | .0784 | 1,6 |
| 1.640 | 2.48059 | 267 | 2.67457 | 248 | 0.92747 | 14,0 | 1.0782 | 1,6 |
| .641 | .48327 | 268 | .67706 | 248 | .92761 | 14,0 | .0780 | 1,6 |
| .642 | .48595 | 268 | .67954 | 249 | .92775 | 13,9 | .0779 | 1,6 |
| .643 | .48863 | 268 | .68203 | 249 | .92789 | 13,9 | .0777 | 1,6 |
| .644 | .49131 | 268 | .68452 | 249 | .92803 | 13,9 | .0776 | 1,6 |
| 1.645 | 2.49400 | 269 | 2.68701 | 249 | 0.92817 | 13,9 | 1.0774 | 1,6 |
| .646 | .49669 | 269 | .68951 | 250 | .92831 | 13,8 | .0772 | 1,6 |
| .647 | .49938 | 269 | .69200 | 250 | .92844 | 13,8 | .0771 | 1,6 |
| .648 | .50207 | 269 | .69451 | 250 | .92858 | 13,8 | .0769 | 1,6 |
| .649 | .50477 | 270 | .69701 | 250 | .92872 | 13,7 | .0768 | 1,6 |
| 1.650 | 2.50746 | 270 | 2.69951 | 251 | 0.92886 | 13,7 | 1.0766 | 1,6 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.650 | 2.50746 | 270 | 2.69951 | 251 | 0.92886 | 13.7 | 1.0766 | 1.6 |
| .651 | .51017 | 270 | .70202 | 251 | .92899 | 13.7 | .0764 | 1.6 |
| .652 | .51287 | 270 | .70454 | 251 | .92913 | 13.7 | .0763 | 1.6 |
| .653 | .51557 | 271 | .70705 | 252 | .92927 | 13.6 | .0761 | 1.6 |
| .654 | .51828 | 271 | .70957 | 252 | .92940 | 13.6 | .0760 | 1.6 |
| 1.655 | 2.52099 | 271 | 2.71209 | 252 | 0.92954 | 13.6 | 1.0758 | 1.6 |
| .656 | .52371 | 271 | .71461 | 252 | .92968 | 13.6 | .0756 | 1.6 |
| .657 | .52642 | 272 | .71713 | 253 | .92981 | 13.5 | .0755 | 1.6 |
| .658 | .52914 | 272 | .71966 | 253 | .92995 | 13.5 | .0753 | 1.6 |
| .659 | .53186 | 272 | .72219 | 253 | .93008 | 13.5 | .0752 | 1.6 |
| 1.660 | 2.53459 | 272 | 2.72472 | 253 | 0.93022 | 13.5 | 1.0750 | 1.6 |
| .661 | .53731 | 273 | .72726 | 254 | .93035 | 13.4 | .0749 | 1.6 |
| .662 | .54004 | 273 | .72980 | 254 | .93049 | 13.4 | .0747 | 1.5 |
| .663 | .54277 | 273 | .73234 | 254 | .93062 | 13.4 | .0746 | 1.5 |
| .664 | .54551 | 273 | .73489 | 255 | .93075 | 13.4 | .0744 | 1.5 |
| 1.665 | 2.54824 | 274 | 2.73743 | 255 | 0.93089 | 13.3 | 1.0742 | 1.5 |
| .666 | .55098 | 274 | .73998 | 255 | .93102 | 13.3 | .0741 | 1.5 |
| .667 | .55372 | 274 | .74253 | 255 | .93115 | 13.3 | .0739 | 1.5 |
| .668 | .55647 | 275 | .74509 | 256 | .93129 | 13.3 | .0738 | 1.5 |
| .669 | .55921 | 275 | .74765 | 256 | .93142 | 13.2 | .0736 | 1.5 |
| 1.670 | 2.56196 | 275 | 2.75021 | 256 | 0.93155 | 13.2 | 1.0735 | 1.5 |
| .671 | .56471 | 275 | .75277 | 256 | .93168 | 13.2 | .0733 | 1.5 |
| .672 | .56747 | 276 | .75534 | 257 | .93182 | 13.2 | .0732 | 1.5 |
| .673 | .57022 | 276 | .75791 | 257 | .93195 | 13.1 | .0730 | 1.5 |
| .674 | .57298 | 276 | .76048 | 257 | .93208 | 13.1 | .0729 | 1.5 |
| 1.675 | 2.57574 | 276 | 2.76305 | 258 | 0.93221 | 13.1 | 1.0727 | 1.5 |
| .676 | .57851 | 277 | .76563 | 258 | .93234 | 13.1 | .0726 | 1.5 |
| .677 | .58127 | 277 | .76821 | 258 | .93247 | 13.0 | .0724 | 1.5 |
| .678 | .58404 | 277 | .77079 | 258 | .93260 | 13.0 | .0723 | 1.5 |
| .679 | .58682 | 277 | .77338 | 259 | .93273 | 13.0 | .0721 | 1.5 |
| 1.680 | 2.58959 | 278 | 2.77596 | 259 | 0.93286 | 13.0 | 1.0720 | 1.5 |
| .681 | .59237 | 278 | .77856 | 259 | .93299 | 13.0 | .0718 | 1.5 |
| .682 | .59515 | 278 | .78115 | 260 | .93312 | 12.9 | .0717 | 1.5 |
| .683 | .59793 | 278 | .78375 | 260 | .93325 | 12.9 | .0715 | 1.5 |
| .684 | .60072 | 279 | .78635 | 260 | .93338 | 12.9 | .0714 | 1.5 |
| 1.685 | 2.60350 | 279 | 2.78895 | 260 | 0.93351 | 12.9 | 1.0712 | 1.5 |
| .686 | .60629 | 279 | .79155 | 261 | .93364 | 12.8 | .0711 | 1.5 |
| .687 | .60909 | 279 | .79416 | 261 | .93376 | 12.8 | .0709 | 1.5 |
| .688 | .61188 | 280 | .79677 | 261 | .93389 | 12.8 | .0708 | 1.5 |
| .689 | .61468 | 280 | .79938 | 261 | .93402 | 12.8 | .0706 | 1.5 |
| 1.690 | 2.61748 | 280 | 2.80200 | 262 | 0.93415 | 12.7 | 1.0705 | 1.5 |
| .691 | .62028 | 280 | .80462 | 262 | .93427 | 12.7 | .0703 | 1.5 |
| .692 | .62309 | 281 | .80724 | 262 | .93440 | 12.7 | .0702 | 1.5 |
| .693 | .62590 | 281 | .80987 | 263 | .93453 | 12.7 | .0701 | 1.5 |
| .694 | .62871 | 281 | .81249 | 263 | .93465 | 12.6 | .0699 | 1.4 |
| 1.695 | 2.63152 | 282 | 2.81512 | 263 | 0.93478 | 12.6 | 1.0698 | 1.4 |
| .696 | .63434 | 282 | .81776 | 263 | .93491 | 12.6 | .0696 | 1.4 |
| .697 | .63716 | 282 | .82039 | 264 | .93503 | 12.6 | .0695 | 1.4 |
| .698 | .63998 | 282 | .82303 | 264 | .93516 | 12.5 | .0693 | 1.4 |
| .699 | .64280 | 283 | .82567 | 264 | .93528 | 12.5 | .0692 | 1.4 |
| 1.700 | 2.64563 | 283 | 2.82832 | 265 | 0.93541 | 12.5 | 1.0691 | 1.4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | ωF_0 | coth u | $\omega F_0'$ |
|--------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 700 | 2.64563 | 283 | 2.82832 | 265 | 0.93541 | 12.5 | I. 0691 | I.4 |
| .701 | .64846 | 283 | .83096 | 265 | .93553 | 12.5 | .0689 | I.4 |
| .702 | .65129 | 283 | .83361 | 265 | .93565 | 12.5 | .0688 | I.4 |
| .703 | .65413 | 284 | .83627 | 265 | .93578 | 12.4 | .0686 | I.4 |
| .704 | .65697 | 384 | .83892 | 266 | .93591 | 12.4 | .0685 | I.4 |
| I. 705 | 2.65981 | 284 | 2.84158 | 266 | 0.93603 | 12.4 | I. 0683 | I.4 |
| .706 | .66265 | 284 | .84424 | 266 | .93615 | 12.4 | .0682 | I.4 |
| .707 | .66550 | 285 | .84690 | 267 | .93628 | 12.3 | .0681 | I.4 |
| .708 | .66834 | 285 | .84957 | 267 | .93640 | 12.3 | .0679 | I.4 |
| .709 | .67119 | 285 | .85224 | 267 | .93652 | 12.3 | .0678 | I.4 |
| I. 710 | 2.67405 | 285 | 2.85491 | 267 | 0.93665 | 12.3 | I. 0676 | I.4 |
| .711 | .67690 | 286 | .85759 | 268 | .93677 | 12.2 | .0675 | I.4 |
| .712 | .67976 | 286 | .86027 | 268 | .93689 | 12.2 | .0674 | I.4 |
| .713 | .68262 | 286 | .86295 | 268 | .93701 | 12.2 | .0672 | I.4 |
| .714 | .68549 | 287 | .86563 | 269 | .93714 | 12.2 | .0671 | I.4 |
| I. 715 | 2.68836 | 287 | 2.86832 | 269 | 0.93726 | 12.2 | I. 0669 | I.4 |
| .716 | .69123 | 287 | .87101 | 269 | .93738 | 12.1 | .0668 | I.4 |
| .717 | .69410 | 287 | .87370 | 269 | .93750 | 12.1 | .0667 | I.4 |
| .718 | .69697 | 288 | .87640 | 270 | .93762 | 12.1 | .0665 | I.4 |
| .719 | .69985 | 288 | .87910 | 270 | .93774 | 12.1 | .0664 | I.4 |
| I. 720 | 2.70273 | 288 | 2.88180 | 270 | 0.93786 | 12.0 | I. 0663 | I.4 |
| .721 | .70561 | 288 | .88450 | 271 | .93798 | 12.0 | .0661 | I.4 |
| .722 | .70850 | 289 | .88721 | 271 | .93810 | 12.0 | .0660 | I.4 |
| .723 | .71139 | 289 | .88992 | 271 | .93822 | 12.0 | .0658 | I.4 |
| .724 | .71428 | 289 | .89263 | 271 | .93834 | 12.0 | .0657 | I.4 |
| I. 725 | 2.71717 | 290 | 2.89535 | 272 | 0.93846 | 11.9 | I. 0656 | I.4 |
| .726 | .72007 | 290 | .89807 | 272 | .93858 | 11.9 | .0654 | I.4 |
| .727 | .72297 | 290 | .90079 | 272 | .93870 | 11.9 | .0653 | I.3 |
| .728 | .72587 | 290 | .90351 | 273 | .93882 | 11.9 | .0652 | I.3 |
| .729 | .72878 | 291 | .90624 | 273 | .93894 | 11.8 | .0650 | I.3 |
| I. 730 | 2.73168 | 291 | 2.90897 | 273 | 0.93906 | 11.8 | I. 0649 | I.3 |
| .731 | .73460 | 291 | .91170 | 273 | .93917 | 11.8 | .0648 | I.3 |
| .732 | .73751 | 291 | .91444 | 274 | .93929 | 11.8 | .0646 | I.3 |
| .733 | .74042 | 292 | .91718 | 274 | .93941 | 11.8 | .0645 | I.3 |
| .734 | .74334 | 292 | .91992 | 274 | .93953 | 11.7 | .0644 | I.3 |
| I. 735 | 2.74626 | 292 | 2.92266 | 275 | 0.93964 | 11.7 | I. 0642 | I.3 |
| .736 | .74919 | 293 | .92541 | 275 | .93976 | 11.7 | .0641 | I.3 |
| .737 | .75211 | 293 | .92816 | 275 | .93988 | 11.7 | .0640 | I.3 |
| .738 | .75504 | 293 | .93092 | 276 | .93999 | 11.6 | .0638 | I.3 |
| .739 | .75798 | 293 | .93367 | 276 | .94011 | 11.6 | .0637 | I.3 |
| I. 740 | 2.76091 | 294 | 2.93643 | 276 | 0.94023 | 11.6 | I. 0636 | I.3 |
| .741 | .76385 | 294 | .93919 | 276 | .94034 | 11.6 | .0634 | I.3 |
| .742 | .76679 | 294 | .94196 | 277 | .94046 | 11.6 | .0633 | I.3 |
| .743 | .76973 | 294 | .94473 | 277 | .94057 | 11.5 | .0632 | I.3 |
| .744 | .77268 | 295 | .94750 | 277 | .94069 | 11.5 | .0631 | I.3 |
| I. 745 | 2.77563 | 295 | 2.95027 | 278 | 0.94080 | 11.5 | I. 0629 | I.3 |
| .746 | .77858 | 295 | .95305 | 278 | .94092 | 11.5 | .0628 | I.3 |
| .747 | .78153 | 296 | .95583 | 278 | .94103 | 11.4 | .0627 | I.3 |
| .748 | .78449 | 296 | .95861 | 278 | .94115 | 11.4 | .0625 | I.3 |
| .749 | .78745 | 296 | .96140 | 279 | .94126 | 11.4 | .0624 | I.3 |
| I. 750 | 2.79041 | 296 | 2.96419 | 279 | 0.94138 | 11.4 | I. 0623 | I.3 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I.750 | 2.79041 | 296 | 2.96419 | 279 | 0.94138 | II,4 | I.0623 | I,3 |
| .751 | .79338 | 297 | .96098 | 279 | .94149 | II,4 | .0621 | I,3 |
| .752 | .79635 | 297 | .96978 | 280 | .94160 | II,3 | .0620 | I,3 |
| .753 | .79932 | 297 | .97257 | 280 | .94172 | II,3 | .0619 | I,3 |
| .754 | .80229 | 298 | .97537 | 280 | .94183 | II,3 | .0618 | I,3 |
| I.755 | 2.80527 | 298 | 2.97818 | 281 | 0.94194 | II,3 | I.0616 | I,3 |
| .756 | .80825 | 298 | .98098 | 281 | .94205 | II,3 | .0615 | I,3 |
| .757 | .81123 | 298 | .98379 | 281 | .94217 | II,2 | .0614 | I,3 |
| .758 | .81422 | 299 | .98661 | 281 | .94228 | II,2 | .0613 | I,3 |
| .759 | .81721 | 299 | .98942 | 282 | .94239 | II,2 | .0611 | I,3 |
| I.760 | 2.82020 | 299 | 2.99224 | 282 | 0.94250 | II,2 | I.0610 | I,3 |
| .761 | .82319 | 300 | .99506 | 282 | .94261 | II,1 | .0609 | I,3 |
| .762 | .82619 | 300 | .99789 | 283 | .94273 | II,1 | .0608 | I,3 |
| .763 | .82919 | 300 | 3.00072 | 283 | .94284 | II,1 | .0606 | I,2 |
| .764 | .83219 | 300 | .00355 | 283 | .94295 | II,1 | .0605 | I,2 |
| I.765 | 2.83519 | 301 | 3.00638 | 284 | 0.94306 | II,1 | I.0604 | I,2 |
| .766 | .83820 | 301 | .00922 | 284 | .94317 | II,0 | .0603 | I,2 |
| .767 | .84121 | 301 | .01206 | 284 | .94328 | II,0 | .0601 | I,2 |
| .768 | .84422 | 301 | .01490 | 284 | .94339 | II,0 | .0600 | I,2 |
| .769 | .84724 | 302 | .01774 | 285 | .94350 | II,0 | .0599 | I,2 |
| I.770 | 2.85026 | 302 | 3.02059 | 285 | 0.94361 | II,0 | I.0598 | I,2 |
| .771 | .85328 | 302 | .02344 | 285 | .94372 | IO,9 | .0596 | I,2 |
| .772 | .85631 | 303 | .02630 | 286 | .94383 | IO,9 | .0595 | I,2 |
| .773 | .85933 | 303 | .02916 | 286 | .94394 | IO,9 | .0594 | I,2 |
| .774 | .86237 | 303 | .03202 | 286 | .94405 | IO,9 | .0593 | I,2 |
| I.775 | 2.86540 | 303 | 3.03488 | 287 | 0.94416 | IO,9 | I.0591 | I,2 |
| .776 | .86844 | 304 | .03775 | 287 | .94426 | IO,8 | .0590 | I,2 |
| .777 | .87147 | 304 | .04062 | 287 | .94437 | IO,8 | .0589 | I,2 |
| .778 | .87452 | 304 | .04349 | 287 | .94448 | IO,8 | .0588 | I,2 |
| .779 | .87756 | 305 | .04637 | 288 | .94459 | IO,8 | .0587 | I,2 |
| I.780 | 2.88061 | 305 | 3.04925 | 288 | 0.94470 | IO,8 | I.0585 | I,2 |
| .781 | .88366 | 305 | .05213 | 288 | .94480 | IO,7 | .0584 | I,2 |
| .782 | .88671 | 306 | .05501 | 289 | .94491 | IO,7 | .0583 | I,2 |
| .783 | .88977 | 306 | .05790 | 289 | .94502 | IO,7 | .0582 | I,2 |
| .784 | .89283 | 306 | .06079 | 289 | .94513 | IO,7 | .0581 | I,2 |
| I.785 | 2.89589 | 306 | 3.06369 | 290 | 0.94523 | IO,7 | I.0579 | I,2 |
| .786 | .89896 | 307 | .06659 | 290 | .94534 | IO,6 | .0578 | I,2 |
| .787 | .90202 | 307 | .06949 | 290 | .94544 | IO,6 | .0577 | I,2 |
| .788 | .90510 | 307 | .07239 | 291 | .94555 | IO,6 | .0576 | I,2 |
| .789 | .90817 | 308 | .07530 | 291 | .94565 | IO,6 | .0575 | I,2 |
| I.790 | 2.91125 | 308 | 3.07821 | 291 | 0.94576 | IO,6 | I.0574 | I,2 |
| .791 | .91433 | 308 | .08112 | 291 | .94587 | IO,5 | .0572 | I,2 |
| .792 | .91741 | 308 | .08403 | 292 | .94597 | IO,5 | .0571 | I,2 |
| .793 | .92049 | 309 | .08695 | 292 | .94608 | IO,5 | .0570 | I,2 |
| .794 | .92358 | 309 | .08988 | 292 | .94618 | IO,5 | .0569 | I,2 |
| I.795 | 2.92667 | 309 | 3.09280 | 293 | 0.94629 | IO,5 | I.0568 | I,2 |
| .796 | .92977 | 310 | .09573 | 293 | .94639 | IO,4 | .0566 | I,2 |
| .797 | .93287 | 310 | .09866 | 293 | .94649 | IO,4 | .0565 | I,2 |
| .798 | .93597 | 310 | .10160 | 294 | .94660 | IO,4 | .0564 | I,2 |
| .799 | .93907 | 310 | .10453 | 294 | .94670 | IO,4 | .0563 | I,2 |
| I.800 | 2.94217 | 311 | 3.10747 | 294 | 0.94681 | IO,4 | I.0562 | I,2 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.800 | 2.94217 | 311 | 3.10747 | 294 | 0.94681 | 10,4 | 1.0562 | 1,2 |
| .801 | .94528 | 311 | .11042 | 295 | .94691 | 10,3 | .0561 | 1,2 |
| .802 | .94840 | 311 | .11336 | 295 | .94701 | 10,3 | .0560 | 1,2 |
| .803 | .95151 | 312 | .11631 | 295 | .94712 | 10,3 | .0558 | 1,1 |
| .804 | .95463 | 312 | .11927 | 295 | .94722 | 10,3 | .0557 | 1,1 |
| 1.805 | 2.95775 | 312 | 3.12222 | 296 | 0.94732 | 10,3 | 1.0556 | 1,1 |
| .806 | .96087 | 313 | .12518 | 296 | .94742 | 10,2 | .0555 | 1,1 |
| .807 | .96400 | 313 | .12814 | 296 | .94753 | 10,2 | .0554 | 1,1 |
| .808 | .96713 | 313 | .13111 | 297 | .94763 | 10,2 | .0553 | 1,1 |
| .809 | .97026 | 313 | .13408 | 297 | .94773 | 10,2 | .0552 | 1,1 |
| 1.810 | 2.97340 | 314 | 3.13705 | 297 | 0.94783 | 10,2 | 1.0550 | 1,1 |
| .811 | .97654 | 314 | .14003 | 298 | .94793 | 10,1 | .0549 | 1,1 |
| .812 | .97968 | 314 | .14300 | 298 | .94803 | 10,1 | .0548 | 1,1 |
| .813 | .98282 | 315 | .14599 | 298 | .94814 | 10,1 | .0547 | 1,1 |
| .814 | .98597 | 315 | .14897 | 299 | .94824 | 10,1 | .0546 | 1,1 |
| 1.815 | 2.98912 | 315 | 3.15196 | 299 | 0.94834 | 10,1 | 1.0545 | 1,1 |
| .816 | .99227 | 315 | .15495 | 299 | .94844 | 10,0 | .0544 | 1,1 |
| .817 | .99543 | 316 | .15794 | 300 | .94854 | 10,0 | .0543 | 1,1 |
| .818 | .99859 | 316 | .16094 | 300 | .94864 | 10,0 | .0541 | 1,1 |
| .819 | 3.00175 | 316 | .16394 | 300 | .94874 | 10,0 | .0540 | 1,1 |
| 1.820 | 3.00492 | 317 | 3.16694 | 300 | 0.94884 | 10,0 | 1.0539 | 1,1 |
| .821 | .00808 | 317 | .16995 | 301 | .94894 | 10,0 | .0538 | 1,1 |
| .822 | .01126 | 317 | .17296 | 301 | .94904 | 9,9 | .0537 | 1,1 |
| .823 | .01443 | 318 | .17597 | 301 | .94914 | 9,9 | .0536 | 1,1 |
| .824 | .01761 | 318 | .17899 | 302 | .94924 | 9,9 | .0535 | 1,1 |
| 1.825 | 3.02079 | 318 | 3.18201 | 302 | 0.94933 | 9,9 | 1.0534 | 1,1 |
| .826 | .02397 | 319 | .18503 | 302 | .94943 | 9,9 | .0533 | 1,1 |
| .827 | .02716 | 319 | .18805 | 303 | .94953 | 9,8 | .0532 | 1,1 |
| .828 | .03035 | 319 | .19108 | 303 | .94963 | 9,8 | .0530 | 1,1 |
| .829 | .03354 | 319 | .19411 | 303 | .94973 | 9,8 | .0529 | 1,1 |
| 1.830 | 3.03674 | 320 | 3.19715 | 304 | 0.94983 | 9,8 | 1.0528 | 1,1 |
| .831 | .03994 | 320 | .20019 | 304 | .94992 | 9,8 | .0527 | 1,1 |
| .832 | .04314 | 320 | .20323 | 304 | .95002 | 9,7 | .0526 | 1,1 |
| .833 | .04634 | 321 | .20627 | 305 | .95012 | 9,7 | .0525 | 1,1 |
| .834 | .04955 | 321 | .20932 | 305 | .95022 | 9,7 | .0524 | 1,1 |
| 1.835 | 3.05276 | 321 | 3.21237 | 305 | 0.95031 | 9,7 | 1.0523 | 1,1 |
| .836 | .05597 | 322 | .21543 | 306 | .95041 | 9,7 | .0522 | 1,1 |
| .837 | .05919 | 322 | .21849 | 306 | .95051 | 9,7 | .0521 | 1,1 |
| .838 | .06241 | 322 | .22155 | 306 | .95060 | 9,6 | .0520 | 1,1 |
| .839 | .06563 | 322 | .22461 | 307 | .95070 | 9,6 | .0519 | 1,1 |
| 1.840 | 3.06886 | 323 | 3.22768 | 307 | 0.95080 | 9,6 | 1.0518 | 1,1 |
| .841 | .07209 | 323 | .23075 | 307 | .95089 | 9,6 | .0516 | 1,1 |
| .842 | .07532 | 323 | .23382 | 308 | .95099 | 9,6 | .0515 | 1,1 |
| .843 | .07856 | 324 | .23690 | 308 | .95108 | 9,5 | .0514 | 1,1 |
| .844 | .08180 | 324 | .23998 | 308 | .95118 | 9,5 | .0513 | 1,1 |
| 1.845 | 3.08504 | 324 | 3.24306 | 309 | 0.95127 | 9,5 | 1.0512 | 1,1 |
| .846 | .08828 | 325 | .24615 | 309 | .95137 | 9,5 | .0511 | 1,0 |
| .847 | .09153 | 325 | .24924 | 309 | .95146 | 9,5 | .0510 | 1,0 |
| .848 | .09478 | 325 | .25233 | 309 | .95156 | 9,5 | .0509 | 1,0 |
| .849 | .09803 | 326 | .25543 | 310 | .95165 | 9,4 | .0508 | 1,0 |
| 1.850 | 3.10129 | 326 | 3.25853 | 310 | 0.95175 | 9,4 | 1.0507 | 1,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.850 | 3.10129 | 326 | 3.25853 | 310 | 0.95175 | 9,4 | 1.0507 | 1,0 |
| .851 | .10455 | 326 | .26163 | 310 | .95184 | 9,4 | .0506 | 1,0 |
| .852 | .10781 | 326 | .26474 | 311 | .95193 | 9,4 | .0505 | 1,0 |
| .853 | .11108 | 327 | .26785 | 311 | .95203 | 9,4 | .0504 | 1,0 |
| .854 | .11435 | 327 | .27096 | 311 | .95212 | 9,3 | .0503 | 1,0 |
| 1.855 | 3.11762 | 327 | 3.27408 | 312 | 0.95221 | 9,3 | 1.0502 | 1,0 |
| .856 | .12090 | 328 | .27719 | 312 | .95231 | 9,3 | .0501 | 1,0 |
| .857 | .12418 | 328 | .28032 | 312 | .95240 | 9,3 | .0500 | 1,0 |
| .858 | .12746 | 328 | .28344 | 313 | .95249 | 9,3 | .0499 | 1,0 |
| .859 | .13074 | 329 | .28657 | 313 | .95259 | 9,3 | .0498 | 1,0 |
| 1.860 | 3.13403 | 329 | 3.28970 | 313 | 0.95268 | 9,2 | 1.0497 | 1,0 |
| .861 | .13732 | 329 | .29284 | 314 | .95277 | 9,2 | .0496 | 1,0 |
| .862 | .14062 | 330 | .29598 | 314 | .95286 | 9,2 | .0495 | 1,0 |
| .863 | .14392 | 330 | .29912 | 314 | .95296 | 9,2 | .0494 | 1,0 |
| .864 | .14722 | 330 | .30227 | 315 | .95305 | 9,2 | .0493 | 1,0 |
| 1.865 | 3.15052 | 331 | 3.30542 | 315 | 0.95314 | 9,2 | 1.0492 | 1,0 |
| .866 | .15383 | 331 | .30857 | 315 | .95323 | 9,1 | .0491 | 1,0 |
| .867 | .15714 | 331 | .31172 | 316 | .95332 | 9,1 | .0490 | 1,0 |
| .868 | .16045 | 331 | .31488 | 316 | .95341 | 9,1 | .0489 | 1,0 |
| .869 | .16377 | 332 | .31804 | 316 | .95350 | 9,1 | .0488 | 1,0 |
| 1.870 | 3.16709 | 332 | 3.32121 | 317 | 0.95359 | 9,1 | 1.0487 | 1,0 |
| .871 | .17041 | 332 | .32438 | 317 | .95368 | 9,0 | .0486 | 1,0 |
| .872 | .17374 | 333 | .32755 | 317 | .95378 | 9,0 | .0485 | 1,0 |
| .873 | .17706 | 333 | .33073 | 318 | .95387 | 9,0 | .0484 | 1,0 |
| .874 | .18040 | 333 | .33390 | 318 | .95396 | 9,0 | .0483 | 1,0 |
| 1.875 | 3.18373 | 344 | 3.33709 | 318 | 0.95405 | 9,0 | 1.0482 | 1,0 |
| .876 | .18707 | 334 | .34027 | 319 | .95414 | 9,0 | .0481 | 1,0 |
| .877 | .19041 | 334 | .34346 | 319 | .95422 | 8,9 | .0480 | 1,0 |
| .878 | .19376 | 335 | .34665 | 319 | .95431 | 8,9 | .0479 | 1,0 |
| .879 | .19711 | 335 | .34985 | 320 | .95440 | 8,9 | .0478 | 1,0 |
| 1.880 | 3.20046 | 335 | 3.35305 | 320 | 0.95449 | 8,9 | 1.0477 | 1,0 |
| .881 | .20381 | 336 | .35625 | 320 | .95458 | 8,9 | .0476 | 1,0 |
| .882 | .20717 | 336 | .35946 | 321 | .95467 | 8,9 | .0475 | 1,0 |
| .883 | .21053 | 336 | .36266 | 321 | .95476 | 8,8 | .0474 | 1,0 |
| .884 | .21390 | 337 | .36588 | 321 | .95485 | 8,8 | .0473 | 1,0 |
| 1.885 | 3.21726 | 337 | 3.36909 | 322 | 0.95493 | 8,8 | 1.0472 | 1,0 |
| .886 | .22063 | 337 | .37231 | 322 | .95502 | 8,8 | .0471 | 1,0 |
| .887 | .22401 | 338 | .37553 | 322 | .95511 | 8,8 | .0470 | 1,0 |
| .888 | .22738 | 338 | .37876 | 323 | .95520 | 8,8 | .0469 | 1,0 |
| .889 | .23076 | 338 | .38199 | 323 | .95529 | 8,7 | .0468 | 1,0 |
| 1.890 | 3.23415 | 339 | 3.38522 | 323 | 0.95537 | 8,7 | 1.0467 | 1,0 |
| .891 | .23753 | 339 | .38846 | 324 | .95546 | 8,7 | .0466 | 1,0 |
| .892 | .24093 | 339 | .39170 | 324 | .95555 | 8,7 | .0465 | 1,0 |
| .893 | .24432 | 339 | .39494 | 324 | .95563 | 8,7 | .0464 | 1,0 |
| .894 | .24772 | 340 | .39818 | 325 | .95572 | 8,7 | .0463 | 0,9 |
| 1.895 | 3.25112 | 340 | 3.40143 | 325 | 0.95581 | 8,6 | 1.0462 | 0,9 |
| .896 | .25452 | 340 | .40469 | 325 | .95589 | 8,6 | .0461 | 0,9 |
| .897 | .25792 | 341 | .40794 | 326 | .95598 | 8,6 | .0460 | 0,9 |
| .898 | .26133 | 341 | .41120 | 326 | .95607 | 8,6 | .0460 | 0,9 |
| .899 | .26475 | 341 | .41447 | 326 | .95615 | 8,6 | .0459 | 0,9 |
| 1.900 | 3.26816 | 342 | 3.41773 | 327 | 0.95624 | 8,6 | 1.0458 | 0,9 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|--------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| I. 900 | 3.26816 | 342 | 3.41773 | 327 | 0.95624 | 8,6 | I. 0458 | 0,9 |
| .901 | .27158 | 342 | .42100 | 327 | .95632 | 8,5 | .0457 | 0,9 |
| .902 | .27500 | 342 | .42427 | 328 | .95641 | 8,5 | .0456 | 0,9 |
| .903 | .27843 | 343 | .42755 | 328 | .95649 | 8,5 | .0455 | 0,9 |
| .904 | .28186 | 343 | .43083 | 328 | .95658 | 8,5 | .0454 | 0,9 |
| I. 905 | 3.28529 | 343 | 3.43412 | 329 | 0.95666 | 8,5 | I. 0453 | 0,9 |
| .906 | .28873 | 344 | .43740 | 329 | .95675 | 8,5 | .0452 | 0,9 |
| .907 | .29217 | 344 | .44069 | 329 | .95683 | 8,4 | .0451 | 0,9 |
| .908 | .29561 | 344 | .44399 | 330 | .95692 | 8,4 | .0450 | 0,9 |
| .909 | .29906 | 345 | .44728 | 330 | .95700 | 8,4 | .0449 | 0,9 |
| I. 910 | 3.30250 | 345 | 3.45058 | 330 | 0.95709 | 8,4 | I. 0448 | 0,9 |
| .911 | .30596 | 345 | .45389 | 331 | .95717 | 8,4 | .0447 | 0,9 |
| .912 | .30941 | 346 | .45720 | 331 | .95725 | 8,4 | .0447 | 0,9 |
| .913 | .31287 | 346 | .46051 | 331 | .95734 | 8,4 | .0446 | 0,9 |
| .914 | .31633 | 346 | .46382 | 332 | .95742 | 8,3 | .0445 | 0,9 |
| I. 915 | 3.31980 | 347 | 3.46714 | 332 | 0.95750 | 8,3 | I. 0444 | 0,9 |
| .916 | .32327 | 347 | .47046 | 332 | .95759 | 8,3 | .0443 | 0,9 |
| .917 | .32674 | 347 | .47379 | 333 | .95767 | 8,3 | .0442 | 0,9 |
| .918 | .33021 | 348 | .47712 | 333 | .95775 | 8,3 | .0441 | 0,9 |
| .919 | .33369 | 348 | .48045 | 333 | .95783 | 8,3 | .0440 | 0,9 |
| I. 920 | 3.33718 | 348 | 3.48378 | 334 | 0.95792 | 8,2 | I. 0439 | 0,9 |
| .921 | .34066 | 349 | .48712 | 334 | .95800 | 8,2 | .0438 | 0,9 |
| .922 | .34415 | 349 | .49046 | 334 | .95808 | 8,2 | .0438 | 0,9 |
| .923 | .34764 | 349 | .49381 | 335 | .95816 | 8,2 | .0437 | 0,9 |
| .924 | .35114 | 350 | .49716 | 335 | .95825 | 8,2 | .0436 | 0,9 |
| I. 925 | 3.35464 | 350 | 3.50051 | 335 | 0.95833 | 8,2 | I. 0435 | 0,9 |
| .926 | .35814 | 350 | .50387 | 336 | .95841 | 8,1 | .0434 | 0,9 |
| .927 | .36164 | 351 | .50723 | 336 | .95849 | 8,1 | .0433 | 0,9 |
| .928 | .36515 | 351 | .51059 | 337 | .95857 | 8,1 | .0432 | 0,9 |
| .929 | .36867 | 351 | .51396 | 337 | .95865 | 8,1 | .0431 | 0,9 |
| I. 930 | 3.37218 | 352 | 3.51733 | 337 | 0.95873 | 8,1 | I. 0430 | 0,9 |
| .931 | .37570 | 352 | .52070 | 338 | .95881 | 8,1 | .0430 | 0,9 |
| .932 | .37922 | 352 | .52408 | 338 | .95890 | 8,1 | .0429 | 0,9 |
| .933 | .38275 | 353 | .52746 | 338 | .95898 | 8,0 | .0428 | 0,9 |
| .934 | .38628 | 353 | .53085 | 339 | .95906 | 8,0 | .0427 | 0,9 |
| I. 935 | 3.38981 | 353 | 3.53423 | 339 | 0.95914 | 8,0 | I. 0426 | 0,9 |
| .936 | .39335 | 354 | .53763 | 339 | .95922 | 8,0 | .0425 | 0,9 |
| .937 | .39689 | 354 | .54102 | 340 | .95930 | 8,0 | .0424 | 0,9 |
| .938 | .40043 | 354 | .54442 | 340 | .95938 | 8,0 | .0423 | 0,9 |
| .939 | .40397 | 355 | .54782 | 340 | .95945 | 7,9 | .0423 | 0,9 |
| I. 940 | 3.40732 | 355 | 3.55123 | 341 | 0.95953 | 7,9 | I. 0422 | 0,9 |
| .941 | .41108 | 355 | .55464 | 341 | .95961 | 7,9 | .0421 | 0,9 |
| .942 | .41463 | 356 | .55805 | 341 | .95969 | 7,9 | .0420 | 0,9 |
| .943 | .41819 | 356 | .56147 | 342 | .95977 | 7,9 | .0419 | 0,9 |
| .944 | .42176 | 356 | .56489 | 342 | .95985 | 7,9 | .0418 | 0,9 |
| I. 945 | 3.42532 | 357 | 3.56831 | 343 | 0.95993 | 7,9 | I. 0417 | 0,9 |
| .946 | .42889 | 357 | .57174 | 343 | .96001 | 7,8 | .0417 | 0,9 |
| .947 | .43247 | 358 | .57517 | 343 | .96009 | 7,8 | .0416 | 0,9 |
| .948 | .43604 | 358 | .57860 | 344 | .96016 | 7,8 | .0415 | 0,9 |
| .949 | .43962 | 358 | .58204 | 344 | .96024 | 7,8 | .0414 | 0,9 |
| I. 950 | 3.44321 | 359 | 3.58548 | 344 | 0.96032 | 7,8 | I. 0413 | 0,8 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 1.950 | 3.44321 | 359 | 3.58548 | 344 | 0.96032 | 7.8 | 1.0413 | 0.8 |
| .951 | .44079 | 359 | .58893 | 345 | .96040 | 7.8 | .0412 | |
| .952 | .45038 | 359 | .59237 | 345 | .96047 | 7.7 | .0412 | |
| .953 | .45398 | 360 | .59583 | 345 | .96055 | 7.7 | .0411 | |
| .954 | .45758 | 360 | .59928 | 346 | .96063 | 7.7 | .0410 | |
| 1.955 | 3.46118 | 360 | 3.60274 | 346 | 0.96071 | 7.7 | 1.0409 | 0.8 |
| .956 | .46478 | 361 | .60520 | 346 | .96078 | 7.7 | .0408 | |
| .957 | .46839 | 261 | .60907 | 347 | .96086 | 7.7 | .0407 | |
| .958 | .47200 | 361 | .61314 | 347 | .96094 | 7.7 | .0407 | |
| .959 | .47562 | 362 | .61662 | 348 | .96101 | 7.6 | .0406 | |
| 1.960 | 3.47923 | 362 | 3.62009 | 348 | 0.96109 | 7.6 | 1.0405 | 0.8 |
| .961 | .48286 | 362 | .62357 | 348 | .96117 | 7.6 | .0404 | |
| .962 | .48648 | 363 | .62706 | 349 | .96124 | 7.6 | .0403 | |
| .963 | .49011 | 363 | .63055 | 349 | .96132 | 7.6 | .0402 | |
| .964 | .49374 | 363 | .63404 | 349 | .96139 | 7.6 | .0402 | |
| 1.965 | 3.49738 | 364 | 3.63753 | 350 | 0.96147 | 7.6 | 1.0401 | 0.8 |
| .966 | .50102 | 364 | .64103 | 350 | .96155 | 7.5 | .0400 | |
| .967 | .50466 | 364 | .64454 | 350 | .96162 | 7.5 | .0399 | |
| .968 | .50831 | 365 | .64804 | 351 | .96170 | 7.5 | .0398 | |
| .969 | .51196 | 365 | .65155 | 351 | .96177 | 7.5 | .0397 | |
| 1.970 | 3.51561 | 366 | 3.65507 | 352 | 0.96185 | 7.5 | 1.0397 | 0.8 |
| .971 | .51927 | 366 | .65858 | 352 | .96192 | 7.5 | .0396 | |
| .972 | .52293 | 366 | .66211 | 352 | .96199 | 7.5 | .0395 | |
| .973 | .52659 | 367 | .66563 | 353 | .96207 | 7.4 | .0394 | |
| .974 | .53026 | 367 | .66916 | 353 | .96214 | 7.4 | .0393 | |
| 1.975 | 3.53393 | 367 | 3.67269 | 353 | 0.96222 | 7.4 | 1.0393 | 0.8 |
| .976 | .53760 | 368 | .67623 | 354 | .96229 | 7.4 | .0392 | |
| .977 | .54128 | 368 | .67977 | 354 | .96237 | 7.4 | .0391 | |
| .978 | .54496 | 368 | .68331 | 354 | .96244 | 7.4 | .0390 | |
| .979 | .54865 | 369 | .68686 | 355 | .96251 | 7.4 | .0389 | |
| 1.980 | 3.55234 | 369 | 3.69041 | 355 | 0.96259 | 7.3 | 1.0389 | 0.8 |
| .981 | .55603 | 369 | .69396 | 356 | .96266 | 7.3 | .0388 | |
| .982 | .55972 | 370 | .69752 | 356 | .96273 | 7.3 | .0387 | |
| .983 | .56342 | 370 | .70108 | 356 | .96281 | 7.3 | .0386 | |
| .984 | .56713 | 370 | .70465 | 357 | .96288 | 7.3 | .0386 | |
| 1.985 | 3.57083 | 371 | 3.70821 | 357 | 0.96295 | 7.3 | 1.0385 | 0.8 |
| .986 | .57454 | 371 | .71179 | 357 | .96302 | 7.3 | .0384 | |
| .987 | .57826 | 372 | .71536 | 358 | .96310 | 7.2 | .0383 | |
| .988 | .58197 | 372 | .71894 | 358 | .96317 | 7.2 | .0382 | |
| .989 | .58569 | 372 | .72253 | 359 | .96324 | 7.2 | .0382 | |
| 1.990 | 3.58942 | 373 | 3.72611 | 359 | 0.96331 | 7.2 | 1.0381 | 0.8 |
| .991 | .59315 | 373 | .72971 | 359 | .96339 | 7.2 | .0380 | |
| .992 | .59688 | 373 | .73330 | 360 | .96346 | 7.2 | .0379 | |
| .993 | .60061 | 374 | .73690 | 360 | .96353 | 7.2 | .0379 | |
| .994 | .60435 | 374 | .74050 | 360 | .96360 | 7.1 | .0378 | |
| 1.995 | 3.60809 | 374 | 3.74411 | 361 | 0.96367 | 7.1 | 1.0377 | 0.8 |
| .996 | .61184 | 375 | .74772 | 361 | .96374 | 7.1 | .0376 | |
| .997 | .61559 | 375 | .75133 | 362 | .96382 | 7.1 | .0375 | |
| .998 | .61934 | 375 | .75495 | 362 | .96389 | 7.1 | .0375 | |
| .999 | .62310 | 376 | .75857 | 362 | .96396 | 7.1 | .0374 | |
| 2.000 | 3.62686 | 376 | 3.76220 | 363 | 0.96403 | 7.1 | 1.0373 | 0.8 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.000 | 3.62686 | 376 | 3.76220 | 363 | 0.96403 | 7.1 | 1.0373 | 0.8 |
| .001 | .63052 | 377 | .76582 | 363 | .96410 | 7.1 | .0372 | |
| .002 | .63439 | 377 | .76946 | 363 | .96417 | 7.0 | .0372 | |
| .003 | .63816 | 377 | .77309 | 364 | .96424 | 7.0 | .0371 | |
| .004 | .64194 | 378 | .77673 | 364 | .96431 | 7.0 | .0370 | |
| 2.005 | 3.64572 | 378 | 3.78038 | 365 | 0.96438 | 7.0 | 1.0369 | 0.8 |
| .005 | .64950 | 378 | .78402 | 365 | .96445 | 7.0 | .0369 | 0.8 |
| .007 | .65328 | 379 | .78768 | 365 | .96452 | 7.0 | .0368 | 0.7 |
| .008 | .65707 | 379 | .79133 | 366 | .96459 | 7.0 | .0367 | |
| .009 | .66087 | 379 | .79499 | 366 | .96466 | 6.9 | .0366 | |
| 2.010 | 3.66466 | 380 | 3.79865 | 366 | 0.96473 | 6.9 | 1.0366 | 0.7 |
| .011 | .66846 | 380 | .80232 | 367 | .96480 | 6.9 | .0365 | |
| .012 | .67227 | 381 | .80599 | 367 | .96487 | 6.9 | .0364 | |
| .013 | .67608 | 381 | .80966 | 368 | .96493 | 6.9 | .0363 | |
| .014 | .67989 | 381 | .81334 | 368 | .96500 | 6.9 | .0363 | |
| 2.015 | 3.68370 | 382 | 3.81702 | 368 | 0.96507 | 6.9 | 1.0362 | 0.7 |
| .016 | .68752 | 382 | .82071 | 369 | .96514 | 6.9 | .0361 | |
| .017 | .69134 | 382 | .82440 | 369 | .96521 | 6.8 | .0360 | |
| .018 | .69517 | 383 | .82809 | 370 | .96528 | 6.8 | .0360 | |
| .019 | .69900 | 383 | .83179 | 370 | .96535 | 6.8 | .0359 | |
| 2.020 | 3.70283 | 384 | 3.83549 | 370 | 0.96541 | 6.8 | 1.0358 | 0.7 |
| .021 | .70667 | 384 | .83919 | 371 | .96548 | 6.8 | .0358 | |
| .022 | .71051 | 384 | .84290 | 371 | .96555 | 6.8 | .0357 | |
| .023 | .71436 | 385 | .84662 | 371 | .96562 | 6.8 | .0356 | |
| .024 | .71821 | 385 | .85033 | 372 | .96568 | 6.7 | .0355 | |
| 2.025 | 3.72206 | 385 | 3.85405 | 372 | 0.96575 | 6.7 | 1.0355 | 0.7 |
| .026 | .72591 | 386 | .85778 | 373 | .96582 | 6.7 | .0354 | |
| .027 | .72977 | 386 | .86150 | 373 | .96589 | 6.7 | .0353 | |
| .028 | .73364 | 387 | .86524 | 373 | .96595 | 6.7 | .0352 | |
| .029 | .73750 | 387 | .86897 | 374 | .96602 | 6.7 | .0352 | |
| 2.030 | 3.74138 | 387 | 3.87271 | 374 | 0.96609 | 6.7 | 1.0351 | 0.7 |
| .031 | .74525 | 388 | .87645 | 375 | .96615 | 6.7 | .0350 | |
| .032 | .74913 | 388 | .88020 | 375 | .96622 | 6.6 | .0350 | |
| .033 | .75301 | 388 | .88395 | 375 | .96629 | 6.6 | .0349 | |
| .034 | .75690 | 389 | .88771 | 376 | .96635 | 6.6 | .0348 | |
| 2.035 | 3.76079 | 389 | 3.89147 | 376 | 0.96642 | 6.6 | 1.0347 | 0.7 |
| .036 | .76468 | 390 | .89523 | 376 | .96648 | 6.6 | .0347 | |
| .037 | .76858 | 390 | .89900 | 377 | .96655 | 6.6 | .0346 | |
| .038 | .77248 | 390 | .90277 | 377 | .96662 | 6.6 | .0345 | |
| .039 | .77638 | 391 | .90654 | 378 | .96668 | 6.6 | .0345 | |
| 2.040 | 3.78029 | 391 | 3.91032 | 378 | 0.96675 | 6.5 | 1.0344 | 0.7 |
| .041 | .78420 | 391 | .91410 | 378 | .96681 | 6.5 | .0343 | |
| .042 | .78812 | 392 | .91789 | 379 | .96688 | 6.5 | .0343 | |
| .043 | .79204 | 392 | .92168 | 379 | .96694 | 6.5 | .0342 | |
| .044 | .79596 | 393 | .92547 | 380 | .96701 | 6.5 | .0341 | |
| 2.045 | 3.79989 | 393 | 3.92927 | 380 | 0.96707 | 6.5 | 1.0340 | 0.7 |
| .046 | .80382 | 393 | .93307 | 380 | .96714 | 6.5 | .0340 | |
| .047 | .80776 | 394 | .93688 | 381 | .96720 | 6.5 | .0339 | |
| .048 | .81169 | 394 | .94069 | 381 | .96727 | 6.4 | .0338 | |
| .049 | .81564 | 394 | .94450 | 382 | .96733 | 6.4 | .0338 | |
| 2.050 | 3.81958 | 395 | 3.94832 | 382 | 0.96740 | 6.4 | 1.0337 | 0.7 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.050 | 3.81958 | 395 | 3.94832 | 382 | 0.96740 | 6,4 | 1.0337 | 0,7 |
| .051 | .82353 | 395 | .95214 | 382 | .96746 | 6,4 | .0336 | |
| .052 | .82749 | 396 | .95597 | 383 | .96752 | 6,4 | .0336 | |
| .053 | .83145 | 396 | .95979 | 383 | .96759 | 6,4 | .0335 | |
| .054 | .83541 | 396 | .96363 | 384 | .96765 | 6,4 | .0334 | |
| 2.055 | 3.83937 | 397 | 3.96747 | 384 | 0.96771 | 6,4 | 1.0334 | 0,7 |
| .056 | .84334 | 397 | .97131 | 384 | .96778 | 6,3 | .0333 | |
| .057 | .84732 | 398 | .97515 | 385 | .96784 | 6,3 | .0332 | |
| .058 | .85129 | 398 | .97900 | 385 | .96790 | 6,3 | .0332 | |
| .059 | .85527 | 398 | .98285 | 386 | .96797 | 6,3 | .0331 | |
| 2.060 | 3.85926 | 399 | 3.98571 | 386 | 0.96803 | 6,3 | 1.0330 | 0,7 |
| .061 | .86325 | 399 | .99057 | 386 | .96809 | 6,3 | .0330 | |
| .062 | .86724 | 399 | .99444 | 387 | .96816 | 6,3 | .0329 | |
| .063 | .87124 | 400 | .99831 | 387 | .96822 | 6,3 | .0328 | |
| .064 | .87524 | 400 | 4.00218 | 388 | .96828 | 6,2 | .0328 | |
| 2.065 | 3.87924 | 401 | 4.00606 | 388 | 0.96834 | 6,2 | 1.0327 | 0,7 |
| .066 | .88325 | 401 | .00994 | 388 | .96841 | 6,2 | .0326 | |
| .067 | .88726 | 401 | .01382 | 389 | .96847 | 6,2 | .0326 | |
| .068 | .89128 | 402 | .01771 | 389 | .96853 | 6,2 | .0325 | |
| .069 | .89530 | 402 | .02161 | 390 | .96859 | 6,2 | .0324 | |
| 2.070 | 3.89932 | 403 | 4.02550 | 390 | 0.96865 | 6,2 | 1.0324 | 0,7 |
| .071 | .90335 | 403 | .02941 | 390 | .96872 | 6,2 | .0323 | |
| .072 | .90738 | 403 | .03331 | 391 | .96878 | 6,1 | .0322 | |
| .073 | .91141 | 404 | .03722 | 391 | .96884 | 6,1 | .0322 | |
| .074 | .91545 | 404 | .04113 | 392 | .96890 | 6,1 | .0321 | |
| 2.075 | 3.91950 | 405 | 4.04505 | 392 | 0.96896 | 6,1 | 1.0320 | 0,7 |
| .076 | .92354 | 405 | .04897 | 392 | .96902 | 6,1 | .0320 | 0,6 |
| .077 | .92759 | 405 | .05290 | 393 | .96908 | 6,1 | .0319 | |
| .078 | .93165 | 406 | .05683 | 393 | .96914 | 6,1 | .0318 | |
| .079 | .93571 | 406 | .06076 | 394 | .96920 | 6,1 | .0318 | |
| 2.080 | 3.93977 | 406 | 4.06470 | 394 | 0.96926 | 6,1 | 1.0317 | 0,6 |
| .081 | .94384 | 407 | .06864 | 394 | .96933 | 6,0 | .0316 | |
| .082 | .94791 | 407 | .07259 | 395 | .96939 | 6,0 | .0316 | |
| .083 | .95198 | 408 | .07654 | 395 | .96945 | 6,0 | .0315 | |
| .084 | .95606 | 408 | .08049 | 396 | .96951 | 6,0 | .0315 | |
| 2.085 | 3.96014 | 408 | 4.08445 | 396 | 0.96957 | 6,0 | 1.0314 | 0,6 |
| .086 | .96423 | 409 | .08841 | 396 | .96963 | 6,0 | .0313 | |
| .087 | .96832 | 409 | .09238 | 397 | .96969 | 6,0 | .0313 | |
| .088 | .97241 | 410 | .09635 | 397 | .96975 | 6,0 | .0312 | |
| .089 | .97651 | 410 | .10032 | 398 | .96980 | 5,9 | .0311 | |
| 2.090 | 3.98061 | 410 | 4.10430 | 398 | 0.96986 | 5,9 | 1.0311 | 0,6 |
| .091 | .98472 | 411 | .10828 | 398 | .96992 | 5,9 | .0310 | |
| .092 | .98883 | 411 | .11227 | 399 | .96998 | 5,9 | .0309 | |
| .093 | .99294 | 412 | .11626 | 399 | .97004 | 5,9 | .0309 | |
| .094 | .99706 | 412 | .12026 | 400 | .97010 | 5,9 | .0308 | |
| 2.095 | 4.00119 | 412 | 4.12426 | 400 | 0.97016 | 5,9 | 1.0308 | 0,6 |
| .096 | .00531 | 413 | .12826 | 401 | .97022 | 5,9 | .0307 | |
| .097 | .00944 | 413 | .13227 | 401 | .97028 | 5,9 | .0306 | |
| .098 | .01358 | 414 | .13628 | 401 | .97034 | 5,8 | .0306 | |
| .099 | .01771 | 414 | .14029 | 402 | .97039 | 5,8 | .0305 | |
| 2.100 | 4.02186 | 414 | 4.14431 | 402 | 0.97045 | 5,8 | 1.0304 | 0,6 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.100 | 4.02186 | 414 | 4.14431 | 402 | 0.97045 | 5,8 | 1.0304 | 0,6 |
| .101 | .02600 | 415 | .14834 | 403 | .97051 | 5,8 | .0304 | |
| .102 | .03015 | 415 | .15237 | 403 | .97057 | 5,8 | .0303 | |
| .103 | .03431 | 416 | .15640 | 403 | .97063 | 5,8 | .0303 | |
| .104 | .03847 | 416 | .16043 | 404 | .97068 | 5,8 | .0302 | |
| 2.105 | 4.04263 | 416 | 4.16447 | 404 | 0.97074 | 5,8 | 1.0301 | 0,6 |
| .106 | .04680 | 417 | .16852 | 405 | .97080 | 5,8 | .0301 | |
| .107 | .05097 | 417 | .17257 | 405 | .97086 | 5,7 | .0300 | |
| .108 | .05514 | 418 | .17662 | 406 | .97091 | 5,7 | .0300 | |
| .109 | .05932 | 418 | .18068 | 406 | .97097 | 5,7 | .0299 | |
| 2.110 | 4.06350 | 418 | 4.18474 | 406 | 0.97103 | 5,7 | 1.0298 | 0,6 |
| .111 | .06769 | 419 | .18881 | 407 | .97109 | 5,7 | .0298 | |
| .112 | .07188 | 419 | .19288 | 407 | .97114 | 5,7 | .0297 | |
| .113 | .07607 | 420 | .19695 | 408 | .97120 | 5,7 | .0297 | |
| .114 | .08027 | 420 | .20103 | 408 | .97126 | 5,7 | .0296 | |
| 2.115 | 4.08448 | 421 | 4.20511 | 408 | 0.97131 | 5,7 | 1.0295 | 0,6 |
| .116 | .08868 | 421 | .20920 | 409 | .97137 | 5,6 | .0295 | |
| .117 | .09289 | 421 | .21329 | 409 | .97143 | 5,6 | .0294 | |
| .118 | .09711 | 422 | .21738 | 410 | .97148 | 5,6 | .0294 | |
| .119 | .10133 | 422 | .22148 | 410 | .97154 | 5,6 | .0293 | |
| 2.120 | 4.10555 | 423 | 4.22558 | 411 | 0.97159 | 5,6 | 1.0292 | 0,6 |
| .121 | .10978 | 423 | .22969 | 411 | .97165 | 5,6 | .0292 | |
| .122 | .11401 | 423 | .23380 | 411 | .97171 | 5,6 | .0291 | |
| .123 | .11825 | 424 | .23792 | 412 | .97176 | 5,6 | .0291 | |
| .124 | .12249 | 424 | .24204 | 412 | .97182 | 5,6 | .0290 | |
| 2.125 | 4.12673 | 425 | 4.24617 | 413 | 0.97187 | 5,5 | 1.0289 | 0,6 |
| .126 | .13098 | 425 | .25029 | 413 | .97193 | 5,5 | .0289 | |
| .127 | .13523 | 425 | .25443 | 414 | .97198 | 5,5 | .0288 | |
| .128 | .13949 | 426 | .25856 | 414 | .97204 | 5,5 | .0288 | |
| .129 | .14375 | 426 | .26271 | 414 | .97209 | 5,5 | .0287 | |
| 2.130 | 4.14801 | 427 | 4.26685 | 415 | 0.97215 | 5,5 | 1.0286 | 0,6 |
| .131 | .15228 | 427 | .27100 | 415 | .97220 | 5,5 | .0286 | |
| .132 | .15656 | 428 | .27516 | 416 | .97226 | 5,5 | .0285 | |
| .133 | .16083 | 428 | .27932 | 416 | .97231 | 5,5 | .0285 | |
| .134 | .16512 | 428 | .28348 | 417 | .97237 | 5,4 | .0284 | |
| 2.135 | 4.16940 | 429 | 4.28765 | 417 | 0.97242 | 5,4 | 1.0284 | 0,6 |
| .136 | .17369 | 429 | .29182 | 417 | .97248 | 5,4 | .0283 | |
| .137 | .17798 | 430 | .29599 | 418 | .97253 | 5,4 | .0282 | |
| .138 | .18228 | 430 | .30017 | 418 | .97258 | 5,4 | .0282 | |
| .139 | .18658 | 430 | .30436 | 419 | .97264 | 5,4 | .0281 | |
| 2.140 | 4.19089 | 431 | 4.30855 | 419 | 0.97269 | 5,4 | 1.0281 | 0,6 |
| .141 | .19520 | 431 | .31274 | 420 | .97275 | 5,4 | .0280 | |
| .142 | .19952 | 432 | .31694 | 420 | .97280 | 5,4 | .0280 | |
| .143 | .20384 | 432 | .32114 | 420 | .97285 | 5,4 | .0279 | |
| .144 | .20816 | 433 | .32534 | 421 | .97291 | 5,3 | .0278 | |
| 2.145 | 4.21249 | 433 | 4.32955 | 421 | 0.97296 | 5,3 | 1.0278 | 0,6 |
| .146 | .21682 | 433 | .33377 | 422 | .97301 | 5,3 | .0277 | |
| .147 | .22115 | 434 | .33799 | 422 | .97307 | 5,3 | .0277 | |
| .148 | .22549 | 434 | .34221 | 423 | .97312 | 5,3 | .0276 | |
| .149 | .22984 | 435 | .34644 | 423 | .97317 | 5,3 | .0276 | |
| 2.150 | 4.23419 | 435 | 4.35067 | 423 | 0.97323 | 5,3 | 1.0275 | 0,6 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.150 | 4.23419 | 435 | 4.35067 | 423 | 0.97323 | 5.3 | 1.0275 | 0.6 |
| 151 | .23854 | 435 | .35491 | 424 | .97328 | 5.3 | .0275 | |
| 152 | .24290 | 436 | .35915 | 424 | .97333 | 5.3 | .0274 | |
| 153 | .24726 | 436 | .36339 | 425 | .97338 | 5.3 | .0273 | |
| 154 | .25162 | 437 | .36764 | 425 | .97344 | 5.2 | .0273 | |
| 2.155 | 4.25599 | 437 | 4.37190 | 426 | 0.97349 | 5.2 | 1.0272 | 0.6 |
| 156 | .26037 | 438 | .37615 | 426 | .97354 | 5.2 | .0272 | 0.6 |
| 157 | .26475 | 438 | .38042 | 426 | .97359 | 5.2 | .0271 | 0.5 |
| 158 | .26913 | 438 | .38468 | 427 | .97365 | 5.2 | .0271 | 0.5 |
| 159 | .27352 | 439 | .38896 | 427 | .97370 | 5.2 | .0270 | 0.5 |
| 2.160 | 4.27791 | 439 | 4.39323 | 428 | 0.97375 | 5.2 | 1.0270 | 0.5 |
| 161 | .28230 | 440 | .39751 | 428 | .97380 | 5.2 | .0269 | |
| 162 | .28670 | 440 | .40180 | 429 | .97385 | 5.2 | .0268 | |
| 163 | .29111 | 441 | .40608 | 429 | .97390 | 5.2 | .0268 | |
| 164 | .29551 | 441 | .41038 | 430 | .97396 | 5.1 | .0267 | |
| 2.165 | 4.29993 | 441 | 4.41468 | 430 | 0.97401 | 5.1 | 1.0267 | 0.5 |
| 166 | .30434 | 442 | .41898 | 430 | .97406 | 5.1 | .0266 | |
| 167 | .30876 | 442 | .42328 | 431 | .97411 | 5.1 | .0266 | |
| 168 | .31319 | 443 | .42760 | 431 | .97416 | 5.1 | .0265 | |
| 169 | .31762 | 443 | .43191 | 432 | .97421 | 5.1 | .0265 | |
| 2.170 | 4.32205 | 444 | 4.43623 | 432 | 0.97426 | 5.1 | 1.0264 | 0.5 |
| 171 | .32649 | 444 | .44056 | 433 | .97431 | 5.1 | .0264 | |
| 172 | .33093 | 444 | .44488 | 433 | .97436 | 5.1 | .0263 | |
| 173 | .33538 | 445 | .44922 | 434 | .97441 | 5.1 | .0263 | |
| 174 | .33983 | 445 | .45355 | 434 | .97446 | 5.0 | .0262 | |
| 2.175 | 4.34429 | 446 | 4.45790 | 434 | 0.97452 | 5.0 | 1.0262 | 0.5 |
| 176 | .34875 | 446 | .46224 | 435 | .97457 | 5.0 | .0261 | |
| 177 | .35321 | 447 | .46659 | 435 | .97462 | 5.0 | .0260 | |
| 178 | .35768 | 447 | .47095 | 436 | .97467 | 5.0 | .0260 | |
| 179 | .36215 | 448 | .47531 | 436 | .97472 | 5.0 | .0259 | |
| 2.180 | 4.36663 | 448 | 4.47967 | 437 | 0.97477 | 5.0 | 1.0259 | 0.5 |
| 181 | .37111 | 448 | .48404 | 437 | .97482 | 5.0 | .0258 | |
| 182 | .37560 | 449 | .48842 | 438 | .97487 | 5.0 | .0258 | |
| 183 | .38009 | 449 | .49279 | 438 | .97491 | 5.0 | .0257 | |
| 184 | .38459 | 450 | .49718 | 438 | .97496 | 4.9 | .0257 | |
| 2.185 | 4.38909 | 450 | 4.50156 | 439 | 0.97501 | 4.9 | 1.0256 | 0.5 |
| 186 | .39359 | 451 | .50595 | 439 | .97506 | 4.9 | .0256 | |
| 187 | .39810 | 451 | .51035 | 440 | .97511 | 4.9 | .0255 | |
| 188 | .40261 | 451 | .51475 | 440 | .97516 | 4.9 | .0255 | |
| 189 | .40713 | 452 | .51916 | 441 | .97521 | 4.9 | .0254 | |
| 2.190 | 4.41165 | 452 | 4.52356 | 441 | 0.97526 | 4.9 | 1.0254 | 0.5 |
| 191 | .41617 | 453 | .52798 | 442 | .97531 | 4.9 | .0253 | |
| 192 | .42070 | 453 | .53240 | 442 | .97536 | 4.9 | .0253 | |
| 193 | .42524 | 454 | .53682 | 443 | .97541 | 4.9 | .0252 | |
| 194 | .42978 | 454 | .54125 | 443 | .97545 | 4.8 | .0252 | |
| 2.195 | 4.43432 | 455 | 4.54568 | 443 | 0.97550 | 4.8 | 1.0251 | 0.5 |
| 196 | .43887 | 455 | .55012 | 444 | .97555 | 4.8 | .0251 | |
| 197 | .44342 | 455 | .55456 | 444 | .97560 | 4.8 | .0250 | |
| 198 | .44798 | 456 | .55900 | 445 | .97565 | 4.8 | .0250 | |
| 199 | .45254 | 456 | .56345 | 445 | .97570 | 4.8 | .0249 | |
| 2.200 | 4.45711 | 457 | 4.56791 | 446 | 0.97574 | 4.8 | 1.0249 | 0.5 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.200 | 4.45711 | 457 | 4.56791 | 446 | 0.97574 | 4.8 | 1.0249 | 0.5 |
| .201 | .46168 | 457 | .57237 | 446 | .97579 | 4.8 | .0248 | |
| .202 | .46625 | 458 | .57683 | 447 | .97584 | 4.8 | .0248 | |
| .203 | .47083 | 458 | .58130 | 447 | .97589 | 4.8 | .0247 | |
| .204 | .47541 | 459 | .58577 | 448 | .97593 | 4.8 | .0247 | |
| 2.205 | 4.48000 | 459 | 4.59025 | 448 | 0.97598 | 4.7 | 1.0246 | 0.5 |
| .206 | .48459 | 459 | .59473 | 448 | .97603 | 4.7 | .0246 | |
| .207 | .48919 | 460 | .59922 | 449 | .97608 | 4.7 | .0245 | |
| .208 | .49379 | 460 | .60371 | 449 | .97612 | 4.7 | .0245 | |
| .209 | .49840 | 461 | .60821 | 450 | .97617 | 4.7 | .0244 | |
| 2.210 | 4.50301 | 461 | 4.61271 | 450 | 0.97622 | 4.7 | 1.0244 | 0.5 |
| .211 | .50762 | 462 | .61721 | 451 | .97626 | 4.7 | .0243 | |
| .212 | .51224 | 462 | .62172 | 451 | .97631 | 4.7 | .0243 | |
| .213 | .51687 | 463 | .62624 | 452 | .97636 | 4.7 | .0242 | |
| .214 | .52149 | 463 | .63076 | 452 | .97640 | 4.7 | .0242 | |
| 2.215 | 4.52613 | 464 | 4.63528 | 453 | 0.97645 | 4.7 | 1.0241 | 0.5 |
| .216 | .53077 | 464 | .63981 | 453 | .97650 | 4.6 | .0241 | |
| .217 | .53541 | 464 | .64434 | 454 | .97654 | 4.6 | .0240 | |
| .218 | .54005 | 465 | .64888 | 454 | .97659 | 4.6 | .0240 | |
| .219 | .54471 | 465 | .65342 | 454 | .97664 | 4.6 | .0239 | |
| 2.220 | 4.54936 | 466 | 4.65797 | 455 | 0.97668 | 4.6 | 1.0239 | 0.5 |
| .221 | .55402 | 466 | .66252 | 455 | .97673 | 4.6 | .0238 | |
| .222 | .55839 | 467 | .66708 | 456 | .97678 | 4.6 | .0238 | |
| .223 | .56336 | 467 | .67164 | 456 | .97682 | 4.6 | .0237 | |
| .224 | .56803 | 468 | .67620 | 457 | .97687 | 4.6 | .0237 | |
| 2.225 | 4.57271 | 468 | 4.68078 | 457 | 0.97691 | 4.6 | 1.0236 | 0.5 |
| .226 | .57739 | 469 | .68535 | 458 | .97696 | 4.6 | .0236 | |
| .227 | .58208 | 469 | .68993 | 458 | .97700 | 4.5 | .0235 | |
| .228 | .58677 | 469 | .69451 | 459 | .97705 | 4.5 | .0235 | |
| .229 | .59147 | 470 | .69910 | 459 | .97709 | 4.5 | .0234 | |
| 2.230 | 4.59617 | 470 | 4.70370 | 460 | 0.97714 | 4.5 | 1.0234 | 0.5 |
| .231 | .60087 | 471 | .70830 | 460 | .97718 | 4.5 | .0233 | |
| .232 | .60559 | 471 | .71290 | 461 | .97723 | 4.5 | .0233 | |
| .233 | .61030 | 472 | .71751 | 461 | .97727 | 4.5 | .0233 | |
| .234 | .61502 | 472 | .72212 | 462 | .97732 | 4.5 | .0232 | |
| 2.235 | 4.61974 | 473 | 4.72674 | 462 | 0.97736 | 4.5 | 1.0232 | 0.5 |
| .236 | .62447 | 473 | .73136 | 462 | .97741 | 4.5 | .0231 | |
| .237 | .62921 | 474 | .73599 | 463 | .97745 | 4.5 | .0231 | |
| .238 | .63395 | 474 | .74062 | 463 | .97750 | 4.4 | .0230 | |
| .239 | .63869 | 475 | .74525 | 464 | .97754 | 4.4 | .0230 | |
| 2.240 | 4.64344 | 475 | 4.74989 | 464 | 0.97759 | 4.4 | 1.0229 | 0.5 |
| .241 | .64819 | 475 | .75454 | 465 | .97763 | 4.4 | .0229 | |
| .242 | .65295 | 476 | .75919 | 465 | .97768 | 4.4 | .0228 | |
| .243 | .65771 | 476 | .76385 | 466 | .97772 | 4.4 | .0228 | |
| .244 | .66247 | 477 | .76851 | 466 | .97776 | 4.4 | .0227 | |
| 2.245 | 4.66724 | 477 | 4.77317 | 467 | 0.97781 | 4.4 | 1.0227 | 0.5 |
| .246 | .67202 | 478 | .77784 | 467 | .97785 | 4.4 | .0227 | |
| .247 | .67680 | 478 | .78252 | 468 | .97790 | 4.4 | .0226 | |
| .248 | .68158 | 479 | .78719 | 468 | .97794 | 4.4 | .0226 | |
| .249 | .68637 | 479 | .79188 | 469 | .97798 | 4.4 | .0225 | |
| 2.250 | 4.69117 | 480 | 4.79657 | 469 | 0.97803 | 4.3 | 1.0225 | 0.5 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.250 | 4.69117 | 480 | 4.79657 | 469 | 0.97803 | 4.3 | 1.0225 | 0.5 |
| .251 | .69597 | 480 | .80126 | 470 | .97807 | 4.3 | .0224 | |
| .252 | .70077 | 481 | .80596 | 470 | .97811 | 4.3 | .0224 | |
| .253 | .70558 | 481 | .81066 | 471 | .97816 | 4.3 | .0223 | |
| .254 | .71039 | 482 | .81537 | 471 | .97820 | 4.3 | .0223 | 0.5 |
| 2.255 | 4.71521 | 482 | 4.82008 | 472 | 0.97824 | 4.3 | 1.0222 | 0.4 |
| .256 | .72003 | 482 | .82480 | 472 | .97829 | 4.3 | .0222 | |
| .257 | .72486 | 483 | .82952 | 472 | .97833 | 4.3 | .0222 | |
| .258 | .72969 | 483 | .83425 | 473 | .97837 | 4.3 | .0221 | |
| .259 | .73453 | 484 | .83898 | 473 | .97841 | 4.3 | .0221 | |
| 2.260 | 4.73937 | 484 | 4.84372 | 474 | 0.97846 | 4.3 | 1.0220 | 0.4 |
| .261 | .74422 | 485 | .84846 | 474 | .97850 | 4.3 | .0220 | |
| .262 | .74907 | 485 | .85321 | 475 | .97854 | 4.2 | .0219 | |
| .263 | .75392 | 486 | .85796 | 475 | .97858 | 4.2 | .0219 | |
| .264 | .75878 | 486 | .86272 | 476 | .97863 | 4.2 | .0218 | |
| 2.265 | 4.76365 | 487 | 4.86748 | 476 | 0.97867 | 4.2 | 1.0218 | 0.4 |
| .266 | .76852 | 487 | .87224 | 477 | .97871 | 4.2 | .0218 | |
| .267 | .77339 | 488 | .87701 | 477 | .97875 | 4.2 | .0217 | |
| .268 | .77827 | 488 | .88179 | 478 | .97879 | 4.2 | .0217 | |
| .269 | .78316 | 489 | .88657 | 478 | .97884 | 4.2 | .0216 | |
| 2.270 | 4.78804 | 489 | 4.89136 | 479 | 0.97888 | 4.2 | 1.0216 | 0.4 |
| .271 | .79294 | 490 | .89615 | 479 | .97892 | 4.2 | .0215 | |
| .272 | .79784 | 490 | .90094 | 480 | .97896 | 4.2 | .0215 | |
| .273 | .80274 | 491 | .90574 | 480 | .97900 | 4.2 | .0214 | |
| .274 | .80765 | 491 | .91055 | 481 | .97905 | 4.1 | .0214 | |
| 2.275 | 4.81256 | 492 | 4.91536 | 481 | 0.97909 | 4.1 | 1.0214 | 0.4 |
| .276 | .81748 | 492 | .92017 | 482 | .97913 | 4.1 | .0213 | |
| .277 | .82240 | 492 | .92499 | 482 | .97917 | 4.1 | .0213 | |
| .278 | .82733 | 493 | .92982 | 483 | .97921 | 4.1 | .0212 | |
| .279 | .83226 | 493 | .93465 | 483 | .97925 | 4.1 | .0212 | |
| 2.280 | 4.83720 | 494 | 4.93948 | 484 | 0.97929 | 4.1 | 1.0211 | 0.4 |
| .281 | .84214 | 494 | .94432 | 484 | .97933 | 4.1 | .0211 | |
| .282 | .84709 | 495 | .94917 | 485 | .97937 | 4.1 | .0211 | |
| .283 | .85204 | 495 | .95402 | 485 | .97942 | 4.1 | .0210 | |
| .284 | .85699 | 496 | .95887 | 486 | .97946 | 4.1 | .0210 | |
| 2.285 | 4.86196 | 496 | 4.96373 | 486 | 0.97950 | 4.1 | 1.0209 | 0.4 |
| .286 | .86692 | 497 | .96859 | 487 | .97954 | 4.1 | .0209 | |
| .287 | .87189 | 497 | .97346 | 487 | .97958 | 4.0 | .0208 | |
| .288 | .87687 | 498 | .97834 | 488 | .97962 | 4.0 | .0208 | |
| .289 | .88185 | 498 | .98322 | 488 | .97966 | 4.0 | .0208 | |
| 2.290 | 4.88684 | 499 | 4.98810 | 489 | 0.97970 | 4.0 | 1.0207 | 0.4 |
| .291 | .89183 | 499 | .99299 | 489 | .97974 | 4.0 | .0207 | |
| .292 | .89682 | 500 | .99789 | 490 | .97978 | 4.0 | .0206 | |
| .293 | .90182 | 500 | 5.00279 | 490 | .97982 | 4.0 | .0206 | |
| .294 | .90683 | 501 | .00769 | 491 | .97986 | 4.0 | .0206 | |
| 2.295 | 4.91184 | 501 | 5.01260 | 491 | 0.97990 | 4.0 | 1.0205 | 0.4 |
| .296 | .91685 | 502 | .01751 | 492 | .97994 | 4.0 | .0205 | |
| .297 | .92187 | 502 | .02243 | 492 | .97998 | 4.0 | .0204 | |
| .298 | .92690 | 503 | .02736 | 493 | .98002 | 4.0 | .0204 | |
| .299 | .93193 | 503 | .03229 | 493 | .98006 | 3.9 | .0203 | |
| 2.300 | 4.93696 | 504 | 5.03722 | 494 | 0.98010 | 3.9 | 1.0203 | 0.4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | ωF_0 | $\cosh u$ | ωF_0 | $\tanh u$ | ωF_0 | $\coth u$ | ωF_0 |
|-------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| 2.300 | 4.93696 | 504 | 5.03722 | 494 | 0.98010 | 3.9 | 1.0203 | 0.4 |
| .301 | .94200 | 504 | .04216 | 494 | .98014 | 3.9 | .0203 | |
| .302 | .94705 | 505 | .04710 | 495 | .98018 | 3.9 | .0202 | |
| .303 | .95210 | 505 | .05205 | 495 | .98021 | 3.9 | .0202 | |
| .304 | .95715 | 506 | .05701 | 496 | .98025 | 3.9 | .0201 | |
| 2.305 | 4.96221 | 506 | 5.06197 | 496 | 0.98029 | 3.9 | 1.0201 | 0.4 |
| .306 | .96727 | 507 | .06693 | 497 | .98033 | 3.9 | .0201 | |
| .307 | .97234 | 507 | .07190 | 497 | .98037 | 3.9 | .0200 | |
| .308 | .97742 | 508 | .07688 | 498 | .98041 | 3.9 | .0200 | |
| .309 | .98250 | 508 | .08186 | 498 | .98045 | 3.9 | .0199 | |
| 2.310 | 4.98758 | 509 | 5.08684 | 499 | 0.98049 | 3.9 | 1.0199 | 0.4 |
| .311 | .99267 | 509 | .09183 | 499 | .98053 | 3.9 | .0199 | |
| .312 | .99777 | 510 | .09683 | 500 | .98056 | 3.8 | .0198 | |
| .313 | 5.00286 | 510 | .10183 | 500 | .98060 | 3.8 | .0198 | |
| .314 | .00797 | 511 | .10683 | 501 | .98064 | 3.8 | .0197 | |
| 2.315 | 5.01308 | 511 | 5.11184 | 501 | 0.98068 | 3.8 | 1.0197 | 0.4 |
| .316 | .01819 | 512 | .11686 | 502 | .98072 | 3.8 | .0197 | |
| .317 | .02331 | 512 | .12188 | 502 | .98076 | 3.8 | .0196 | |
| .318 | .02844 | 513 | .12691 | 503 | .98079 | 3.8 | .0196 | |
| .319 | .03357 | 513 | .13194 | 503 | .98083 | 3.8 | .0195 | |
| 2.320 | 5.03870 | 514 | 5.13697 | 504 | 0.98087 | 3.8 | 1.0195 | 0.4 |
| .321 | .04384 | 514 | .14202 | 504 | .98091 | 3.8 | .0195 | |
| .322 | .04898 | 515 | .14706 | 505 | .98095 | 3.8 | .0194 | |
| .323 | .05413 | 515 | .15211 | 505 | .98098 | 3.8 | .0194 | |
| .324 | .05929 | 516 | .15717 | 506 | .98102 | 3.8 | .0193 | |
| 2.325 | 5.06445 | 516 | 5.16223 | 506 | 0.98106 | 3.8 | 1.0193 | 0.4 |
| .326 | .06961 | 517 | .16730 | 507 | .98110 | 3.7 | .0193 | |
| .327 | .07478 | 517 | .17237 | 507 | .98113 | 3.7 | .0192 | |
| .328 | .07996 | 518 | .17745 | 508 | .98117 | 3.7 | .0192 | |
| .329 | .08514 | 518 | .18253 | 509 | .98121 | 3.7 | .0192 | |
| 2.330 | 5.09032 | 519 | 5.18762 | 509 | 0.98124 | 3.7 | 1.0191 | 0.4 |
| .331 | .09551 | 519 | .19271 | 510 | .98128 | 3.7 | .0191 | |
| .332 | .10071 | 520 | .19781 | 510 | .98132 | 3.7 | .0190 | |
| .333 | .10591 | 520 | .20291 | 511 | .98136 | 3.7 | .0190 | |
| .334 | .11111 | 521 | .20802 | 511 | .98139 | 3.7 | .0190 | |
| 2.335 | 5.11632 | 521 | 5.21314 | 512 | 0.98143 | 3.7 | 1.0189 | 0.4 |
| .336 | .12154 | 522 | .21825 | 512 | .98147 | 3.7 | .0189 | |
| .337 | .12676 | 522 | .22338 | 513 | .98150 | 3.7 | .0188 | |
| .338 | .13199 | 523 | .22851 | 513 | .98154 | 3.7 | .0188 | |
| .339 | .13722 | 523 | .23364 | 514 | .98158 | 3.7 | .0188 | |
| 2.340 | 5.14245 | 524 | 5.23878 | 514 | 0.98161 | 3.6 | 1.0187 | 0.4 |
| .341 | .14770 | 524 | .24393 | 515 | .98165 | 3.6 | .0187 | |
| .342 | .15294 | 525 | .24908 | 515 | .98169 | 3.6 | .0187 | |
| .343 | .15819 | 525 | .25423 | 516 | .98172 | 3.6 | .0186 | |
| .344 | .16345 | 526 | .25939 | 516 | .98176 | 3.6 | .0186 | |
| 2.345 | 5.16871 | 526 | 5.26456 | 517 | 0.98179 | 3.6 | 1.0185 | 0.4 |
| .346 | .17398 | 527 | .26973 | 517 | .98183 | 3.6 | .0185 | |
| .347 | .17925 | 527 | .27491 | 518 | .98187 | 3.6 | .0185 | |
| .348 | .18453 | 528 | .28009 | 518 | .98190 | 3.6 | .0184 | |
| .349 | .18981 | 529 | .28528 | 519 | .98194 | 3.6 | .0184 | |
| 2.350 | 5.19510 | 529 | 5.29047 | 520 | 0.98197 | 3.6 | 1.0184 | 0.4 |
| u | $\tan gd u$ | ωF_0 | $\sec gd u$ | ωF_0 | $\sin gd u$ | ωF_0 | $\csc gd u$ | ωF_0 |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.350 | 5.19510 | 529 | 5.29047 | 520 | 0.98197 | 3,6 | 1.0184 | 0,4 |
| .351 | .20039 | 530 | .29567 | 520 | .98201 | 3,6 | .0183 | |
| .352 | .20569 | 530 | .30087 | 521 | .98204 | 3,6 | .0183 | |
| .353 | .21100 | 531 | .30608 | 521 | .98208 | 3,6 | .0182 | |
| .354 | .21630 | 531 | .31129 | 522 | .98212 | 3,5 | .0182 | |
| 2.355 | 5.22162 | 532 | 5.31651 | 522 | 0.98215 | 3,5 | 1.0182 | 0,4 |
| .356 | .22694 | 532 | .32174 | 523 | .98219 | 3,5 | .0181 | |
| .357 | .23226 | 533 | .32697 | 523 | .98222 | 3,5 | .0181 | |
| .358 | .23759 | 533 | .33220 | 524 | .98226 | 3,5 | .0181 | |
| .359 | .24293 | 534 | .33744 | 524 | .98229 | 3,5 | .0180 | |
| 2.360 | 5.24827 | 534 | 5.34269 | 525 | 0.98233 | 3,5 | 1.0180 | 0,4 |
| .361 | .25361 | 535 | .34794 | 525 | .98236 | 3,5 | .0180 | |
| .362 | .25896 | 535 | .35319 | 526 | .98240 | 3,5 | .0179 | |
| .363 | .26432 | 536 | .35845 | 526 | .98243 | 3,5 | .0179 | |
| .364 | .26968 | 536 | .36372 | 527 | .98247 | 3,5 | .0178 | |
| 2.365 | 5.27504 | 537 | 5.36899 | 528 | 0.98250 | 3,5 | 1.0178 | 0,4 |
| .366 | .28042 | 537 | .37427 | 528 | .98254 | 3,5 | .0178 | |
| .367 | .28579 | 538 | .37955 | 529 | .98257 | 3,5 | .0177 | |
| .368 | .29118 | 538 | .38484 | 529 | .98261 | 3,4 | .0177 | |
| .369 | .29656 | 539 | .39014 | 530 | .98264 | 3,4 | .0177 | |
| 2.370 | 5.30196 | 540 | 5.39544 | 530 | 0.98267 | 3,4 | 1.0176 | 0,4 |
| .371 | .30735 | 540 | .40074 | 531 | .98271 | 3,4 | .0176 | |
| .372 | .31276 | 541 | .40605 | 531 | .98274 | 3,4 | .0176 | |
| .373 | .31817 | 541 | .41137 | 532 | .98278 | 3,4 | .0175 | |
| .374 | .32358 | 541 | .41669 | 532 | .98281 | 3,4 | .0175 | |
| 2.375 | 5.32900 | 542 | 5.42201 | 533 | 0.98285 | 3,4 | 1.0175 | 0,4 |
| .376 | .33442 | 543 | .42235 | 533 | .98288 | 3,4 | .0174 | 0,4 |
| .377 | .33985 | 543 | .42768 | 534 | .98291 | 3,4 | .0174 | 0,4 |
| .378 | .34529 | 544 | .43303 | 535 | .98295 | 3,4 | .0173 | 0,3 |
| .379 | .35073 | 544 | .43837 | 535 | .98298 | 3,4 | .0173 | 0,3 |
| 2.380 | 5.35618 | 545 | 5.44873 | 536 | 0.98301 | 3,4 | 1.0173 | 0,3 |
| .381 | .36163 | 545 | .45409 | 536 | .98305 | 3,4 | .0172 | |
| .382 | .36708 | 546 | .45945 | 537 | .98308 | 3,4 | .0172 | |
| .383 | .37255 | 546 | .46482 | 537 | .98311 | 3,3 | .0172 | |
| .384 | .37801 | 547 | .47020 | 538 | .98315 | 3,3 | .0171 | |
| 2.385 | 5.38349 | 548 | 5.47558 | 538 | 0.98318 | 3,3 | 1.0171 | 0,3 |
| .386 | .38897 | 548 | .48096 | 539 | .98322 | 3,3 | .0171 | |
| .387 | .39445 | 549 | .48635 | 539 | .98325 | 3,3 | .0170 | |
| .388 | .39994 | 549 | .49175 | 540 | .98328 | 3,3 | .0170 | |
| .389 | .40543 | 550 | .49715 | 541 | .98331 | 3,3 | .0170 | |
| 2.390 | 5.41093 | 550 | 5.50256 | 541 | 0.98335 | 3,3 | 1.0169 | 0,3 |
| .391 | .41644 | 551 | .50798 | 542 | .98338 | 3,3 | .0169 | |
| .392 | .42195 | 551 | .51339 | 542 | .98341 | 3,3 | .0169 | |
| .393 | .42746 | 552 | .51882 | 543 | .98345 | 3,3 | .0168 | |
| .394 | .43299 | 552 | .52425 | 543 | .98348 | 3,3 | .0168 | |
| 2.395 | 5.43851 | 553 | 5.52969 | 544 | 0.98351 | 3,3 | 1.0168 | 0,3 |
| .396 | .44405 | 554 | .53513 | 544 | .98354 | 3,3 | .0167 | |
| .397 | .44958 | 554 | .54057 | 545 | .98358 | 3,3 | .0167 | |
| .398 | .45513 | 555 | .54603 | 546 | .98361 | 3,3 | .0167 | |
| .399 | .46068 | 555 | .55148 | 546 | .98364 | 3,2 | .0166 | |
| 2.400 | 5.46623 | 556 | 5.55695 | 547 | 0.98367 | 3,2 | 1.0166 | 0,3 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.400 | 5.46623 | 556 | 5.55695 | 547 | 0.98367 | 3,2 | 1.0166 | 0,3 |
| .401 | .47179 | 556 | .56242 | 547 | .98371 | 3,2 | .0166 | |
| .402 | .47735 | 557 | .56789 | 548 | .98374 | 3,2 | .0165 | |
| .403 | .48292 | 557 | .57337 | 548 | .98377 | 3,2 | .0165 | |
| .404 | .48850 | 558 | .57886 | 549 | .98380 | 3,2 | .0165 | |
| 2.405 | 5.49408 | 558 | 5.58435 | 549 | 0.98384 | 3,2 | 1.0164 | 0,3 |
| .406 | .49967 | 559 | .58984 | 550 | .98387 | 3,2 | .0164 | |
| .407 | .50526 | 560 | .59535 | 551 | .98390 | 3,2 | .0164 | |
| .408 | .51086 | 560 | .60085 | 551 | .98393 | 3,2 | .0163 | |
| .409 | .51646 | 561 | .60637 | 552 | .98396 | 3,2 | .0163 | |
| 2.410 | 5.52207 | 561 | 5.61189 | 552 | 0.98400 | 3,2 | 1.0163 | 0,3 |
| .411 | .52769 | 562 | .61741 | 553 | .98403 | 3,2 | .0162 | |
| .412 | .53331 | 562 | .62294 | 553 | .98406 | 3,2 | .0162 | |
| .413 | .53893 | 563 | .62848 | 554 | .98409 | 3,2 | .0162 | |
| .414 | .54456 | 563 | .63402 | 554 | .98412 | 3,2 | .0161 | |
| 2.415 | 5.55020 | 564 | 5.63957 | 555 | 0.98415 | 3,1 | 1.0161 | 0,3 |
| .416 | .55584 | 565 | .64512 | 556 | .98418 | 3,1 | .0161 | |
| .417 | .56149 | 565 | .65068 | 556 | .98422 | 3,1 | .0160 | |
| .418 | .56715 | 566 | .65624 | 557 | .98425 | 3,1 | .0160 | |
| .419 | .57280 | 566 | .66181 | 557 | .98428 | 3,1 | .0160 | |
| 2.420 | 5.57847 | 567 | 5.66739 | 558 | 0.98431 | 3,1 | 1.0159 | 0,3 |
| .421 | .58414 | 567 | .67297 | 558 | .98434 | 3,1 | .0159 | |
| .422 | .58981 | 568 | .67856 | 559 | .98437 | 3,1 | .0159 | |
| .423 | .59550 | 568 | .68415 | 560 | .98440 | 3,1 | .0158 | |
| .424 | .60118 | 569 | .68975 | 560 | .98443 | 3,1 | .0158 | |
| 2.425 | 5.60688 | 570 | 5.69535 | 561 | 0.98446 | 3,1 | 1.0158 | 0,3 |
| .426 | .61257 | 570 | .70096 | 561 | .98450 | 3,1 | .0157 | |
| .427 | .61828 | 571 | .70658 | 562 | .98453 | 3,1 | .0157 | |
| .428 | .62399 | 571 | .71220 | 562 | .98456 | 3,1 | .0157 | |
| .429 | .62970 | 572 | .71783 | 563 | .98459 | 3,1 | .0157 | |
| 2.430 | 5.63542 | 572 | 5.72346 | 564 | 0.98462 | 3,1 | 1.0156 | 0,3 |
| .431 | .64115 | 573 | .72910 | 564 | .98465 | 3,0 | .0156 | |
| .432 | .64688 | 573 | .73474 | 565 | .98468 | 3,0 | .0156 | |
| .433 | .65262 | 574 | .74039 | 565 | .98471 | 3,0 | .0155 | |
| .434 | .65836 | 575 | .74605 | 566 | .98474 | 3,0 | .0155 | |
| 2.435 | 5.66411 | 575 | 5.75171 | 566 | 0.98477 | 3,0 | 1.0155 | 0,3 |
| .436 | .66986 | 576 | .75738 | 567 | .98480 | 3,0 | .0154 | |
| .437 | .67563 | 576 | .76305 | 568 | .98483 | 3,0 | .0154 | |
| .438 | .68139 | 577 | .76873 | 568 | .98486 | 3,0 | .0154 | |
| .439 | .68716 | 577 | .77441 | 569 | .98489 | 3,0 | .0153 | |
| 2.440 | 5.69294 | 578 | 5.78010 | 569 | 0.98492 | 3,0 | 1.0153 | 0,3 |
| .441 | .69872 | 579 | .78580 | 570 | .98495 | 3,0 | .0153 | |
| .442 | .70451 | 579 | .79150 | 570 | .98498 | 3,0 | .0152 | |
| .443 | .71031 | 580 | .79721 | 571 | .98501 | 3,0 | .0152 | |
| .444 | .71611 | 580 | .80292 | 572 | .98504 | 3,0 | .0152 | |
| 2.445 | 5.72191 | 581 | 5.80864 | 572 | 0.98507 | 3,0 | 1.0152 | 0,3 |
| .446 | .72772 | 581 | .81436 | 573 | .98510 | 3,0 | .0151 | |
| .447 | .73354 | 582 | .82009 | 573 | .98513 | 3,0 | .0151 | |
| .448 | .73936 | 583 | .82583 | 574 | .98516 | 2,9 | .0151 | |
| .449 | .74519 | 583 | .83157 | 575 | .98519 | 2,9 | .0150 | |
| 2.450 | 5.75103 | 584 | 5.83732 | 575 | 0.98522 | 2,9 | 1.0150 | 0,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.450 | 5.75103 | 584 | 5.83732 | 575 | 0.98522 | 2,9 | 1.0150 | 0,3 |
| .451 | .75087 | 584 | .84307 | 576 | .98525 | 2,9 | .0150 | |
| .452 | .76271 | 585 | .84883 | 576 | .98528 | 2,9 | .0149 | |
| .453 | .76856 | 585 | .85460 | 577 | .98530 | 2,9 | .0149 | |
| .454 | .77442 | 586 | .86037 | 577 | .98533 | 2,9 | .0149 | |
| 2.455 | 5.78020 | 587 | 5.86615 | 578 | 0.98536 | 2,9 | 1.0149 | 0,3 |
| .456 | .78615 | 587 | .87193 | 579 | .98539 | 2,9 | .0148 | |
| .457 | .79203 | 588 | .87772 | 579 | .98542 | 2,9 | .0148 | |
| .458 | .79791 | 588 | .88352 | 580 | .98545 | 2,9 | .0148 | |
| .459 | .80380 | 589 | .88932 | 580 | .98548 | 2,9 | .0147 | |
| 2.460 | 5.80969 | 590 | 5.89512 | 581 | 0.98551 | 2,9 | 1.0147 | 0,3 |
| .461 | .81559 | 590 | .90094 | 582 | .98554 | 2,9 | .0147 | |
| .462 | .82149 | 591 | .90675 | 582 | .98556 | 2,9 | .0146 | |
| .463 | .82740 | 591 | .91258 | 583 | .98559 | 2,9 | .0146 | |
| .464 | .83332 | 592 | .91841 | 583 | .98562 | 2,9 | .0146 | |
| 2.465 | 5.83924 | 592 | 5.92425 | 584 | 0.98565 | 2,8 | 1.0146 | 0,3 |
| .466 | .84516 | 593 | .93009 | 585 | .98568 | 2,8 | .0145 | |
| .467 | .85110 | 594 | .93594 | 585 | .98571 | 2,8 | .0145 | |
| .468 | .85704 | 594 | .94179 | 586 | .98574 | 2,8 | .0145 | |
| .469 | .86298 | 595 | .94765 | 586 | .98576 | 2,8 | .0144 | |
| 2.470 | 5.86893 | 595 | 5.95352 | 587 | 0.98579 | 2,8 | 1.0144 | 0,3 |
| .471 | .87489 | 596 | .95939 | 587 | .98582 | 2,8 | .0144 | |
| .372 | .88085 | 597 | .96527 | 588 | .98585 | 2,8 | .0144 | |
| .473 | .88682 | 597 | .97115 | 589 | .98588 | 2,8 | .0143 | |
| .474 | .89279 | 498 | .97704 | 589 | .98590 | 2,8 | .0143 | |
| 2.475 | 5.89877 | 598 | 5.98294 | 590 | 0.98593 | 2,8 | 1.0143 | 0,3 |
| .476 | .90476 | 599 | .98884 | 591 | .98596 | 2,8 | .0142 | |
| .477 | .91075 | 599 | .99474 | 591 | .98599 | 2,8 | .0142 | |
| .478 | .91675 | 600 | 6.00066 | 592 | .98602 | 2,8 | .0142 | |
| .479 | .92275 | 601 | .00658 | 592 | .98604 | 2,8 | .0142 | |
| 2.480 | 5.92876 | 601 | 6.01250 | 593 | 0.98607 | 2,8 | 1.0141 | 0,3 |
| .481 | .93478 | 602 | .01844 | 593 | .98610 | 2,8 | .0141 | |
| .482 | .94080 | 602 | .02437 | 594 | .98613 | 2,8 | .0141 | |
| .483 | .94682 | 603 | .03032 | 595 | .98615 | 2,7 | .0140 | |
| .484 | .95286 | 604 | .03627 | 595 | .98618 | 2,7 | .0140 | |
| 2.485 | 5.95890 | 604 | 6.04222 | 596 | 0.98621 | 2,7 | 1.0140 | 0,3 |
| .486 | .96494 | 605 | .04818 | 596 | .98624 | 2,7 | .0140 | |
| .487 | .97099 | 605 | .05415 | 597 | .98626 | 2,7 | .0139 | |
| .488 | .97705 | 606 | .06013 | 598 | .98629 | 2,7 | .0139 | |
| .489 | .98311 | 607 | .06611 | 598 | .98632 | 2,7 | .0139 | |
| 2.490 | 5.98918 | 607 | 6.07209 | 599 | 0.98635 | 2,7 | 1.0138 | 0,3 |
| .491 | .99526 | 608 | .07809 | 600 | .98637 | 2,7 | .0138 | |
| .492 | 6.00134 | 608 | .08408 | 600 | .98640 | 2,7 | .0138 | |
| .493 | .00743 | 609 | .09009 | 601 | .98643 | 2,7 | .0138 | |
| .494 | .01352 | 610 | .09610 | 601 | .98645 | 2,7 | .0137 | |
| 2.495 | 6.01962 | 610 | 6.10211 | 602 | 0.98648 | 2,7 | 1.0137 | 0,3 |
| .496 | .02572 | 611 | .10814 | 603 | .98651 | 2,7 | .0137 | |
| .497 | .03183 | 611 | .11417 | 603 | .98653 | 2,7 | .0136 | |
| .498 | .03795 | 612 | .12020 | 604 | .98656 | 2,7 | .0136 | |
| .499 | .04408 | 613 | .12624 | 604 | .98659 | 2,7 | .0136 | |
| 2.500 | 6.05020 | 613 | 6.13229 | 605 | 0.98661 | 2,7 | 1.0136 | 0,3 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.500 | 6.05020 | 613 | 6.13229 | 605 | 0.98561 | 2,7 | 1.0136 | 0,3 |
| .501 | .05634 | 614 | .13834 | 605 | .98564 | 2,7 | .0135 | |
| .502 | .05248 | 614 | .14440 | 605 | .98567 | 2,6 | .0135 | |
| .503 | .06863 | 615 | .15047 | 607 | .98569 | 2,6 | .0135 | |
| .504 | .07478 | 616 | .15654 | 607 | .98672 | 2,6 | .0135 | |
| 2.505 | 6.08094 | 616 | 6.16262 | 608 | 0.98575 | 2,6 | 1.0134 | 0,3 |
| .506 | .08711 | 617 | .16870 | 609 | .98577 | 2,6 | .0134 | |
| .507 | .09328 | 617 | .17479 | 609 | .98580 | 2,6 | .0134 | |
| .508 | .09946 | 618 | .18089 | 610 | .98583 | 2,6 | .0134 | |
| .509 | .10564 | 619 | .18699 | 611 | .98685 | 2,6 | .0133 | |
| 2.510 | 6.11183 | 619 | 6.19310 | 611 | 0.98688 | 2,6 | 1.0133 | 0,3 |
| .511 | .11803 | 620 | .19921 | 612 | .98590 | 2,6 | .0133 | |
| .512 | .12423 | 621 | .20534 | 612 | .98593 | 2,6 | .0132 | |
| .513 | .13044 | 621 | .21146 | 613 | .98596 | 2,6 | .0132 | |
| .514 | .13665 | 622 | .21760 | 614 | .98698 | 2,6 | .0132 | |
| 2.515 | 6.14287 | 622 | 6.22374 | 614 | 0.98701 | 2,6 | 1.0132 | 0,3 |
| .516 | .14910 | 623 | .22988 | 615 | .98703 | 2,6 | .0131 | |
| .517 | .15533 | 624 | .23603 | 616 | .98705 | 2,6 | .0131 | |
| .518 | .16157 | 624 | .24219 | 616 | .98708 | 2,6 | .0131 | |
| .519 | .16782 | 625 | .24836 | 617 | .98711 | 2,6 | .0131 | |
| 2.520 | 6.17407 | 625 | 6.25453 | 617 | 0.98714 | 2,6 | 1.0130 | 0,3 |
| .521 | .18033 | 626 | .26071 | 618 | .98716 | 2,6 | .0130 | |
| .522 | .18659 | 627 | .26689 | 619 | .98719 | 2,5 | .0130 | |
| .523 | .19286 | 627 | .27308 | 619 | .98721 | 2,5 | .0130 | |
| .524 | .19914 | 628 | .27927 | 620 | .98724 | 2,5 | .0129 | |
| 2.525 | 6.20542 | 629 | 6.28548 | 621 | 0.98726 | 2,5 | 1.0129 | 0,3 |
| .526 | .21171 | 629 | .29169 | 621 | .98729 | 2,5 | .0129 | |
| .527 | .21800 | 630 | .29790 | 622 | .98731 | 2,5 | .0128 | |
| .528 | .22430 | 630 | .30412 | 622 | .98734 | 2,5 | .0128 | |
| .529 | .23061 | 631 | .31035 | 623 | .98736 | 2,5 | .0128 | |
| 2.530 | 6.23692 | 632 | 6.31658 | 624 | 0.98739 | 2,5 | 1.0128 | 0,3 |
| .531 | .24324 | 632 | .32282 | 624 | .98741 | 2,5 | .0127 | |
| .532 | .24957 | 633 | .32907 | 625 | .98744 | 2,5 | .0127 | |
| .533 | .25590 | 634 | .33532 | 626 | .98746 | 2,5 | .0127 | |
| .534 | .26224 | 634 | .34158 | 626 | .98749 | 2,5 | .0127 | |
| 2.535 | 6.26858 | 635 | 6.34785 | 627 | 0.98751 | 2,5 | 1.0126 | 0,3 |
| .536 | .27494 | 635 | .35412 | 627 | .98754 | 2,5 | .0126 | |
| .537 | .28129 | 636 | .36040 | 628 | .98756 | 2,5 | .0126 | |
| .538 | .28766 | 637 | .36668 | 629 | .98759 | 2,5 | .0126 | |
| .539 | .29403 | 637 | .37297 | 629 | .98761 | 2,5 | .0125 | |
| 2.540 | 6.30040 | 638 | 6.37927 | 630 | 0.98764 | 2,5 | 1.0125 | 0,3 |
| .541 | .30678 | 639 | .38557 | 631 | .98766 | 2,5 | .0125 | 0,3 |
| .542 | .31317 | 639 | .39188 | 631 | .98769 | 2,4 | .0125 | 0,3 |
| .543 | .31957 | 640 | .39820 | 632 | .98771 | 2,4 | .0124 | 0,3 |
| .544 | .32597 | 640 | .40452 | 633 | .98773 | 2,4 | .0124 | 0,2 |
| 2.545 | 6.33238 | 641 | 6.41085 | 633 | 0.98776 | 2,4 | 1.0124 | 0,2 |
| .546 | .33879 | 642 | .41719 | 634 | .98778 | 2,4 | .0124 | |
| .547 | .34521 | 642 | .42353 | 635 | .98781 | 2,4 | .0123 | |
| .548 | .35164 | 643 | .42988 | 635 | .98783 | 2,4 | .0123 | |
| .549 | .35807 | 644 | .43623 | 636 | .98786 | 2,4 | .0123 | |
| 2.550 | 6.36451 | 644 | 6.44259 | 636 | 0.98788 | 2,4 | 1.0123 | 0,2 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.550 | 6.36451 | 644 | 6.44259 | 636 | 0.98788 | 2,4 | 1.0123 | 0,2 |
| .551 | .37096 | 645 | .44896 | 637 | .98790 | 2,4 | .0122 | |
| .552 | .37741 | 646 | .45533 | 638 | .98793 | 2,4 | .0122 | |
| .553 | .38387 | 646 | .46172 | 638 | .98795 | 2,4 | .0122 | |
| .554 | .39033 | 647 | .46810 | 639 | .98798 | 2,4 | .0122 | |
| 2.555 | 6.39680 | 647 | 6.47450 | 640 | 0.98800 | 2,4 | 1.0121 | 0,2 |
| .556 | .40328 | 648 | .48090 | 640 | .98802 | 2,4 | .0121 | |
| .557 | .40977 | 649 | .48730 | 641 | .98805 | 2,4 | .0121 | |
| .558 | .41626 | 649 | .49372 | 642 | .98807 | 2,4 | .0121 | |
| .559 | .42275 | 650 | .50014 | 642 | .98810 | 2,4 | .0120 | |
| 2.560 | 6.42926 | 651 | 6.50656 | 643 | 0.98812 | 2,4 | 1.0120 | 0,2 |
| .561 | .43577 | 651 | .51299 | 644 | .98814 | 2,4 | .0120 | |
| .562 | .44228 | 652 | .51943 | 644 | .98817 | 2,4 | .0120 | |
| .563 | .44880 | 653 | .52588 | 645 | .98819 | 2,3 | .0120 | |
| .564 | .45533 | 653 | .53233 | 646 | .98821 | 2,3 | .0119 | |
| 2.565 | 6.46187 | 654 | 6.53879 | 646 | 0.98824 | 2,3 | 1.0119 | 0,2 |
| .566 | .46841 | 655 | .54525 | 647 | .98826 | 2,3 | .0119 | |
| .567 | .47496 | 655 | .55173 | 647 | .98828 | 2,3 | .0119 | |
| .568 | .48152 | 656 | .55820 | 648 | .98831 | 2,3 | .0118 | |
| .569 | .48808 | 656 | .56469 | 649 | .98833 | 2,3 | .0118 | |
| 2.570 | 6.49464 | 657 | 6.57118 | 649 | 0.98835 | 2,3 | 1.0118 | 0,2 |
| .571 | .50122 | 658 | .57768 | 650 | .98838 | 2,3 | .0118 | |
| .572 | .50780 | 658 | .58418 | 651 | .98840 | 2,3 | .0117 | |
| .573 | .51439 | 659 | .59069 | 651 | .98842 | 2,3 | .0117 | |
| .574 | .52098 | 660 | .59721 | 652 | .98845 | 2,3 | .0117 | |
| 2.575 | 6.52758 | 660 | 6.60374 | 653 | 0.98847 | 2,3 | 1.0117 | 0,2 |
| .576 | .53419 | 661 | .61027 | 653 | .98849 | 2,3 | .0116 | |
| .577 | .54080 | 662 | .61680 | 654 | .98851 | 2,3 | .0116 | |
| .578 | .54742 | 662 | .62335 | 655 | .98854 | 2,3 | .0116 | |
| .579 | .55405 | 663 | .62990 | 655 | .98856 | 2,3 | .0116 | |
| 2.580 | 6.56068 | 664 | 6.63646 | 656 | 0.98858 | 2,3 | 1.0115 | 0,2 |
| .581 | .56732 | 664 | .64302 | 657 | .98860 | 2,3 | .0115 | |
| .582 | .57397 | 665 | .64959 | 657 | .98863 | 2,3 | .0115 | |
| .583 | .58062 | 666 | .65617 | 658 | .98865 | 2,3 | .0115 | |
| .584 | .58728 | 666 | .66275 | 659 | .98867 | 2,3 | .0115 | |
| 2.585 | 6.59395 | 667 | 6.66934 | 659 | 0.98870 | 2,2 | 1.0114 | 0,2 |
| .586 | .60062 | 668 | .67594 | 660 | .98872 | 2,2 | .0114 | |
| .587 | .60730 | 668 | .68254 | 661 | .98874 | 2,2 | .0114 | |
| .588 | .61398 | 669 | .68915 | 661 | .98876 | 2,2 | .0114 | |
| .589 | .62068 | 670 | .69577 | 662 | .98878 | 2,2 | .0113 | |
| 2.590 | 6.62738 | 670 | 6.70240 | 663 | 0.98881 | 2,2 | 1.0113 | 0,2 |
| .591 | .63408 | 671 | .70903 | 663 | .98883 | 2,2 | .0113 | |
| .592 | .64079 | 672 | .71566 | 664 | .98885 | 2,2 | .0113 | |
| .593 | .64751 | 672 | .72231 | 665 | .98887 | 2,2 | .0113 | |
| .594 | .65424 | 673 | .72896 | 665 | .98890 | 2,2 | .0112 | |
| 2.595 | 6.66097 | 674 | 6.73562 | 666 | 0.98892 | 2,2 | 1.0112 | 0,2 |
| .596 | .66771 | 674 | .74228 | 667 | .98894 | 2,2 | .0112 | |
| .597 | .67446 | 675 | .74895 | 667 | .98896 | 2,2 | .0112 | |
| .598 | .68121 | 676 | .75563 | 668 | .98898 | 2,2 | .0111 | |
| .599 | .68797 | 676 | .76231 | 669 | .98901 | 2,2 | .0111 | |
| 2.600 | 6.69473 | 677 | 6.76901 | 669 | 0.98903 | 2,2 | 1.0111 | 0,2 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.600 | 6.69473 | 677 | 6.76901 | 669 | 0.98903 | 2,2 | 1.0111 | 0,2 |
| .601 | .70150 | 678 | .77570 | 670 | .98905 | 2,2 | .0111 | |
| .602 | .70828 | 678 | .78241 | 671 | .98907 | 2,2 | .0110 | |
| .603 | .71507 | 679 | .78912 | 672 | .98909 | 2,2 | .0110 | |
| .604 | .72186 | 680 | .79584 | 672 | .98911 | 2,2 | .0110 | |
| 2.605 | 6.72866 | 680 | 6.80256 | 673 | 0.98914 | 2,2 | 1.0110 | 0,2 |
| .606 | .73547 | 681 | .80930 | 674 | .98916 | 2,2 | .0110 | |
| .607 | .74228 | 682 | .81604 | 674 | .98918 | 2,2 | .0109 | |
| .608 | .74910 | 682 | .82278 | 675 | .98920 | 2,1 | .0109 | |
| .609 | .75593 | 683 | .82953 | 676 | .98922 | 2,1 | .0109 | |
| 2.610 | 6.76276 | 684 | 6.83629 | 676 | 0.98924 | 2,1 | 1.0109 | 0,2 |
| .611 | .76960 | 684 | .84306 | 677 | .98926 | 2,1 | .0109 | |
| .612 | .77644 | 685 | .84983 | 678 | .98929 | 2,1 | .0108 | |
| .613 | .78330 | 686 | .85661 | 678 | .98931 | 2,1 | .0108 | |
| .614 | .79016 | 686 | .86340 | 679 | .98933 | 2,1 | .0108 | |
| 2.615 | 6.79702 | 687 | 6.87019 | 680 | 0.98935 | 2,1 | 1.0108 | 0,2 |
| .616 | .80390 | 688 | .87699 | 680 | .98937 | 2,1 | .0107 | |
| .617 | .81078 | 688 | .88380 | 681 | .98939 | 2,1 | .0107 | |
| .618 | .81767 | 689 | .89061 | 682 | .98941 | 2,1 | .0107 | |
| .619 | .82456 | 690 | .89744 | 682 | .98943 | 2,1 | .0107 | |
| 2.620 | 6.83146 | 690 | 6.90426 | 683 | 0.98946 | 2,1 | 1.0107 | 0,2 |
| .621 | .83837 | 691 | .91110 | 684 | .98948 | 2,1 | .0106 | |
| .622 | .84528 | 692 | .91794 | 685 | .98950 | 2,1 | .0106 | |
| .623 | .85220 | 692 | .92479 | 685 | .98952 | 2,1 | .0106 | |
| .624 | .85913 | 693 | .93164 | 686 | .98954 | 2,1 | .0106 | |
| 2.625 | 6.86607 | 694 | 6.93851 | 687 | 0.98956 | 2,1 | 1.0106 | 0,2 |
| .626 | .87301 | 695 | .94538 | 687 | .98958 | 2,1 | .0105 | |
| .627 | .87996 | 695 | .95225 | 688 | .98960 | 2,1 | .0105 | |
| .628 | .88691 | 696 | .95914 | 689 | .98962 | 2,1 | .0105 | |
| .629 | .89388 | 697 | .96603 | 689 | .98964 | 2,1 | .0105 | |
| 2.630 | 6.90085 | 697 | 6.97292 | 690 | 0.98966 | 2,1 | 1.0104 | 0,2 |
| .631 | .90782 | 698 | .97983 | 691 | .98968 | 2,1 | .0104 | |
| .632 | .91481 | 699 | .98674 | 691 | .98970 | 2,0 | .0104 | |
| .633 | .92180 | 699 | .99366 | 692 | .98972 | 2,0 | .0104 | |
| .634 | .92879 | 700 | 7.00058 | 693 | .98974 | 2,0 | .0104 | |
| 2.635 | 6.93580 | 701 | 7.00752 | 694 | 0.98977 | 2,0 | 1.0103 | 0,2 |
| .636 | .94281 | 701 | .01446 | 694 | .98979 | 2,0 | .0103 | |
| .637 | .94983 | 702 | .02140 | 695 | .98981 | 2,0 | .0103 | |
| .638 | .95685 | 703 | .02835 | 696 | .98983 | 2,0 | .0103 | |
| .639 | .96388 | 704 | .03532 | 696 | .98985 | 2,0 | .0103 | |
| 2.640 | 6.97092 | 704 | 7.04228 | 697 | 0.98987 | 2,0 | 1.0102 | 0,2 |
| .641 | .97797 | 705 | .04926 | 698 | .98989 | 2,0 | .0102 | |
| .642 | .98502 | 706 | .05624 | 699 | .98991 | 2,0 | .0102 | |
| .643 | .99208 | 706 | .06323 | 699 | .98993 | 2,0 | .0102 | |
| .644 | .99915 | 707 | .07022 | 700 | .98995 | 2,0 | .0102 | |
| 2.645 | 7.00622 | 708 | 7.07723 | 701 | 0.98997 | 2,0 | 1.0101 | 0,2 |
| .646 | .01330 | 708 | .08423 | 701 | .98999 | 2,0 | .0101 | |
| .647 | .02039 | 709 | .09125 | 702 | .99001 | 2,0 | .0101 | |
| .648 | .02748 | 710 | .09828 | 703 | .99003 | 2,0 | .0101 | |
| .649 | .03458 | 711 | .10531 | 703 | .99005 | 2,0 | .0101 | |
| 2.650 | 7.04169 | 711 | 7.11234 | 704 | 0.99007 | 2,0 | 1.0100 | 0,2 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|-------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 2.650 | 7.04169 | 711 | 7.11234 | 704 | 0.99007 | 2,0 | 1.0100 | 0,2 |
| .651 | .04881 | 712 | .11939 | 705 | .99009 | 2,0 | .0100 | |
| .652 | .05593 | 713 | .12644 | 706 | .99011 | 2,0 | .0100 | |
| .653 | .06306 | 713 | .13350 | 706 | .99013 | 2,0 | .0100 | |
| .654 | .07020 | 714 | .14057 | 707 | .99015 | 2,0 | .0100 | |
| 2.655 | 7.07734 | 715 | 7.14764 | 708 | 0.99016 | 2,0 | 1.0099 | 0,2 |
| .656 | .08449 | 715 | .15472 | 708 | .99018 | 2,0 | .0099 | |
| .657 | .09165 | 716 | .16181 | 709 | .99020 | 1,9 | .0099 | |
| .658 | .09882 | 717 | .16891 | 710 | .99022 | 1,9 | .0099 | |
| .659 | .10599 | 718 | .17601 | 711 | .99024 | 1,9 | .0099 | |
| 2.660 | 7.11317 | 718 | 7.18312 | 711 | 0.99026 | 1,9 | 1.0098 | 0,2 |
| .661 | .12036 | 719 | .19024 | 712 | .99028 | 1,9 | .0098 | |
| .662 | .12755 | 720 | .19736 | 713 | .99030 | 1,9 | .0098 | |
| .663 | .13475 | 720 | .20449 | 713 | .99032 | 1,9 | .0098 | |
| .664 | .14196 | 721 | .21163 | 714 | .99034 | 1,9 | .0098 | |
| 2.665 | 7.14918 | 722 | 7.21877 | 715 | 0.99036 | 1,9 | 1.0097 | 0,2 |
| .666 | .15640 | 723 | .22593 | 716 | .99038 | 1,9 | .0097 | |
| .667 | .16363 | 723 | .23309 | 716 | .99040 | 1,9 | .0097 | |
| .668 | .17086 | 724 | .24025 | 717 | .99042 | 1,9 | .0097 | |
| .669 | .17811 | 725 | .24743 | 718 | .99044 | 1,9 | .0097 | |
| 2.670 | 7.18536 | 725 | 7.25461 | 719 | 0.99045 | 1,9 | 1.0096 | 0,2 |
| .671 | .19262 | 726 | .26180 | 719 | .99047 | 1,9 | .0096 | |
| .672 | .19988 | 727 | .26900 | 720 | .99049 | 1,9 | .0096 | |
| .673 | .20715 | 728 | .27620 | 721 | .99051 | 1,9 | .0096 | |
| .674 | .21443 | 728 | .28341 | 721 | .99053 | 1,9 | .0096 | |
| 2.675 | 7.22172 | 729 | 7.29063 | 722 | 0.99055 | 1,9 | 1.0095 | 0,2 |
| .676 | .22902 | 730 | .29785 | 723 | .99057 | 1,9 | .0095 | |
| .677 | .23632 | 731 | .30509 | 724 | .99059 | 1,9 | .0095 | |
| .678 | .24363 | 731 | .31233 | 724 | .99060 | 1,9 | .0095 | |
| .679 | .25094 | 732 | .31957 | 725 | .99062 | 1,9 | .0095 | |
| 2.680 | 7.25827 | 733 | 7.32683 | 726 | 0.99064 | 1,9 | 1.0094 | 0,2 |
| .681 | .26560 | 733 | .33409 | 727 | .99066 | 1,9 | .0094 | |
| .682 | .27293 | 734 | .34136 | 727 | .99068 | 1,9 | .0094 | |
| .683 | .28028 | 735 | .34864 | 728 | .99070 | 1,9 | .0094 | |
| .684 | .28763 | 736 | .35592 | 729 | .99072 | 1,8 | .0094 | |
| 2.685 | 7.29499 | 736 | 7.36321 | 729 | 0.99073 | 1,8 | 1.0094 | 0,2 |
| .686 | .30236 | 737 | .37051 | 730 | .99075 | 1,8 | .0093 | |
| .687 | .30973 | 738 | .37782 | 731 | .99077 | 1,8 | .0093 | |
| .688 | .31711 | 739 | .38513 | 732 | .99079 | 1,8 | .0093 | |
| .689 | .32450 | 739 | .39245 | 732 | .99081 | 1,8 | .0093 | |
| 2.690 | 7.33190 | 740 | 7.39978 | 733 | 0.99083 | 1,8 | 1.0093 | 0,2 |
| .691 | .33930 | 741 | .40711 | 734 | .99084 | 1,8 | .0092 | |
| .692 | .34671 | 741 | .41446 | 735 | .99086 | 1,8 | .0092 | |
| .693 | .35413 | 742 | .42181 | 735 | .99088 | 1,8 | .0092 | |
| .694 | .36156 | 743 | .42917 | 736 | .99090 | 1,8 | .0092 | |
| 2.695 | 7.36899 | 744 | 7.43653 | 737 | 0.99092 | 1,8 | 1.0092 | 0,2 |
| .696 | .37643 | 744 | .44390 | 738 | .99094 | 1,8 | .0091 | |
| .697 | .38388 | 745 | .45128 | 738 | .99095 | 1,8 | .0091 | |
| .698 | .39133 | 746 | .45867 | 739 | .99097 | 1,8 | .0091 | |
| .699 | .39879 | 747 | .46607 | 740 | .99099 | 1,8 | .0091 | |
| 2.700 | 7.40626 | 747 | 7.47347 | 741 | 0.99101 | 1,8 | 1.0091 | 0,2 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.700 | 7.40626 | 747 | 7.47347 | 741 | 0.99101 | 1.8 | 1.0091 | 0.2 |
| .701 | .41374 | 748 | .48088 | 741 | .99103 | 1.8 | .0091 | |
| .702 | .42122 | 749 | .48830 | 742 | .99104 | 1.8 | .0090 | |
| .703 | .42872 | 750 | .49572 | 743 | .99106 | 1.8 | .0090 | |
| .704 | .43622 | 750 | .50315 | 744 | .99108 | 1.8 | .0090 | |
| 2.705 | 7.44372 | 751 | 7.51059 | 744 | 0.99110 | 1.8 | 1.0090 | 0.2 |
| .706 | .45124 | 752 | .51804 | 745 | .99111 | 1.8 | .0090 | |
| .707 | .45876 | 753 | .52550 | 746 | .99113 | 1.8 | .0089 | |
| .708 | .46629 | 753 | .53296 | 747 | .99115 | 1.8 | .0089 | |
| .709 | .47383 | 754 | .54043 | 747 | .99117 | 1.8 | .0089 | |
| 2.710 | 7.48137 | 755 | 7.54791 | 748 | 0.99118 | 1.8 | 1.0089 | 0.2 |
| .711 | .48892 | 756 | .55539 | 749 | .99120 | 1.8 | .0089 | |
| .712 | .49648 | 756 | .56288 | 750 | .99122 | 1.7 | .0089 | |
| .713 | .50405 | 757 | .57038 | 750 | .99124 | 1.7 | .0088 | |
| .714 | .51162 | 758 | .57789 | 751 | .99125 | 1.7 | .0088 | |
| 2.715 | 7.51920 | 759 | 7.58541 | 752 | 0.99127 | 1.7 | 1.0088 | 0.2 |
| .716 | .52679 | 759 | .59293 | 753 | .99129 | 1.7 | .0088 | |
| .717 | .53439 | 760 | .60046 | 753 | .99131 | 1.7 | .0088 | |
| .718 | .54199 | 761 | .60800 | 754 | .99132 | 1.7 | .0088 | |
| .719 | .54960 | 762 | .61555 | 755 | .99134 | 1.7 | .0087 | |
| 2.720 | 7.55722 | 762 | 7.62310 | 756 | 0.99136 | 1.7 | 1.0087 | 0.2 |
| .721 | .56485 | 763 | .63066 | 756 | .99138 | 1.7 | .0087 | |
| .722 | .57249 | 764 | .63823 | 757 | .99139 | 1.7 | .0087 | |
| .723 | .58013 | 765 | .64580 | 758 | .99141 | 1.7 | .0087 | |
| .724 | .58778 | 765 | .65339 | 759 | .99143 | 1.7 | .0086 | |
| 2.725 | 7.59543 | 766 | 7.66098 | 760 | 0.99144 | 1.7 | 1.0086 | 0.2 |
| .726 | .60310 | 767 | .66858 | 760 | .99146 | 1.7 | .0086 | |
| .727 | .61077 | 768 | .67619 | 761 | .99148 | 1.7 | .0086 | |
| .728 | .61845 | 768 | .68380 | 762 | .99150 | 1.7 | .0086 | |
| .729 | .62614 | 769 | .69142 | 763 | .99151 | 1.7 | .0086 | |
| 2.730 | 7.63383 | 770 | 7.69905 | 763 | 0.99153 | 1.7 | 1.0085 | 0.2 |
| .731 | .64154 | 771 | .70669 | 764 | .99155 | 1.7 | .0085 | |
| .732 | .64925 | 771 | .71434 | 765 | .99156 | 1.7 | .0085 | |
| .733 | .65697 | 772 | .72199 | 766 | .99158 | 1.7 | .0085 | |
| .734 | .66469 | 773 | .72965 | 766 | .99160 | 1.7 | .0085 | |
| 2.735 | 7.67242 | 774 | 7.73732 | 767 | 0.99161 | 1.7 | 1.0085 | 0.2 |
| .736 | .68017 | 774 | .74500 | 768 | .99163 | 1.7 | .0084 | |
| .737 | .68791 | 775 | .75268 | 769 | .99165 | 1.7 | .0084 | |
| .738 | .69567 | 776 | .76037 | 770 | .99166 | 1.7 | .0084 | |
| .739 | .70344 | 777 | .76807 | 770 | .99168 | 1.7 | .0084 | |
| 2.740 | 7.71121 | 778 | 7.77578 | 771 | 0.99170 | 1.7 | 1.0084 | 0.2 |
| .741 | .71899 | 778 | .78349 | 772 | .99171 | 1.7 | .0084 | |
| .742 | .72677 | 779 | .79122 | 773 | .99173 | 1.6 | .0083 | |
| .743 | .73457 | 780 | .79895 | 773 | .99175 | 1.6 | .0083 | |
| .744 | .74237 | 781 | .80668 | 774 | .99176 | 1.6 | .0083 | |
| 2.745 | 7.75018 | 781 | 7.81443 | 775 | 0.99178 | 1.6 | 1.0083 | 0.2 |
| .746 | .75800 | 782 | .82219 | 776 | .99179 | 1.6 | .0083 | |
| .747 | .76583 | 783 | .82995 | 777 | .99181 | 1.6 | .0083 | |
| .748 | .77366 | 784 | .83772 | 777 | .99183 | 1.6 | .0082 | |
| .749 | .78150 | 785 | .84549 | 778 | .99184 | 1.6 | .0082 | |
| 2.750 | 7.78935 | 785 | 7.85328 | 779 | 0.99186 | 1.6 | 1.0082 | 0.2 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.750 | 7.78935 | 785 | 7.85328 | 779 | 0.99186 | 1,6 | 1.0082 | 0,2 |
| .751 | .79721 | 786 | .86107 | 780 | .99188 | 1,6 | .0082 | |
| .752 | .80507 | 787 | .86887 | 781 | .99189 | 1,6 | .0082 | |
| .753 | .81295 | 788 | .87668 | 781 | .99191 | 1,6 | .0082 | |
| .754 | .82083 | 788 | .88450 | 782 | .99192 | 1,6 | .0081 | |
| 2.755 | 7.82872 | 789 | 7.89232 | 783 | 0.99194 | 1,6 | 1.0081 | 0,2 |
| .756 | .83661 | 790 | .90016 | 784 | .99196 | 1,6 | .0081 | |
| .757 | .84452 | 791 | .90800 | 784 | .99197 | 1,6 | .0081 | |
| .758 | .85243 | 792 | .91585 | 785 | .99199 | 1,6 | .0081 | |
| .759 | .86035 | 792 | .92370 | 786 | .99200 | 1,6 | .0081 | |
| 2.760 | 7.86828 | 793 | 7.93157 | 787 | 0.99202 | 1,6 | 1.0080 | 0,2 |
| .761 | .87621 | 794 | .93944 | 788 | .99204 | 1,6 | .0080 | |
| .762 | .88415 | 795 | .94732 | 788 | .99205 | 1,6 | .0080 | |
| .763 | .89211 | 796 | .95521 | 789 | .99207 | 1,6 | .0080 | |
| .764 | .90006 | 796 | .96310 | 790 | .99208 | 1,6 | .0080 | |
| 2.765 | 7.90803 | 797 | 7.97101 | 791 | 0.99210 | 1,6 | 1.0080 | 0,2 |
| .766 | .91601 | 798 | .97892 | 792 | .99212 | 1,6 | .0079 | |
| .767 | .92399 | 799 | .98684 | 792 | .99213 | 1,6 | .0079 | |
| .768 | .93198 | 799 | .99477 | 793 | .99215 | 1,6 | .0079 | |
| .769 | .93998 | 800 | 8.00270 | 794 | .99216 | 1,6 | .0079 | |
| 2.770 | 7.94799 | 801 | 8.01065 | 795 | 0.99218 | 1,6 | 1.0079 | 0,2 |
| .771 | .95600 | 802 | .01860 | 796 | .99219 | 1,6 | .0079 | |
| .772 | .96402 | 803 | .02656 | 796 | .99221 | 1,6 | .0079 | |
| .773 | .97205 | 803 | .03453 | 797 | .99222 | 1,5 | .0078 | |
| .774 | .98009 | 804 | .04250 | 798 | .99224 | 1,5 | .0078 | |
| 2.775 | 7.98814 | 805 | 8.05049 | 799 | 0.99226 | 1,5 | 1.0078 | 0,2 |
| .776 | .99619 | 806 | .05848 | 800 | .99227 | 1,5 | .0078 | |
| .777 | 8.00426 | 807 | .06648 | 800 | .99229 | 1,5 | .0078 | |
| .778 | .01233 | 807 | .07449 | 801 | .99230 | 1,5 | .0078 | |
| .779 | .02040 | 808 | .08251 | 802 | .99232 | 1,5 | .0077 | |
| 2.780 | 8.02849 | 809 | 8.09053 | 803 | 0.99233 | 1,5 | 1.0077 | 0,2 |
| .781 | .03659 | 810 | .09856 | 804 | .99235 | 1,5 | .0077 | |
| .782 | .04469 | 811 | .10660 | 804 | .99236 | 1,5 | .0077 | |
| .783 | .05280 | 811 | .11465 | 805 | .99238 | 1,5 | .0077 | |
| .784 | .06092 | 812 | .12271 | 806 | .99239 | 1,5 | .0077 | |
| 2.785 | 8.06904 | 813 | 8.13077 | 807 | 0.99241 | 1,5 | 1.0077 | 0,2 |
| .786 | .07718 | 814 | .13885 | 808 | .99242 | 1,5 | .0076 | |
| .787 | .08532 | 815 | .14693 | 809 | .99244 | 1,5 | .0076 | |
| .788 | .09347 | 816 | .15502 | 809 | .99245 | 1,5 | .0076 | |
| .789 | .10163 | 816 | .16311 | 810 | .99247 | 1,5 | .0076 | |
| 2.790 | 8.10980 | 817 | 8.17122 | 811 | 0.99248 | 1,5 | 1.0076 | 0,2 |
| .791 | .11797 | 818 | .17933 | 812 | .99250 | 1,5 | .0076 | |
| .792 | .12616 | 819 | .18746 | 813 | .99251 | 1,5 | .0075 | |
| .793 | .13435 | 820 | .19559 | 813 | .99253 | 1,5 | .0075 | |
| .794 | .14255 | 820 | .20373 | 814 | .99254 | 1,5 | .0075 | |
| 2.795 | 8.15076 | 821 | 8.21187 | 815 | 0.99256 | 1,5 | 1.0075 | 0,2 |
| .796 | .15897 | 822 | .22003 | 816 | .99257 | 1,5 | .0075 | 0,2 |
| .797 | .16720 | 823 | .22819 | 817 | .99259 | 1,5 | .0075 | 0,2 |
| .798 | .17543 | 824 | .23636 | 818 | .99260 | 1,5 | .0075 | 0,2 |
| .799 | .18367 | 824 | .24454 | 818 | .99262 | 1,5 | .0074 | 0,1 |
| 2.800 | 8.19192 | 825 | 8.25273 | 819 | 0.99263 | 1,5 | 1.0074 | 0,1 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.800 | 8.19192 | 825 | 8.25273 | 819 | 0.99263 | 1,5 | 1.0074 | 0,1 |
| .801 | .20018 | 826 | .26092 | 820 | .99265 | 1,5 | .0074 | |
| .802 | .20844 | 827 | .26913 | 821 | .99266 | 1,5 | .0074 | |
| .803 | .21671 | 828 | .27734 | 822 | .99268 | 1,5 | .0074 | |
| .804 | .22499 | 829 | .28556 | 822 | .99269 | 1,5 | .0074 | |
| 2.805 | 8.23328 | 829 | 8.29379 | 823 | 0.99270 | 1,5 | 1.0073 | 0,1 |
| .806 | .24158 | 830 | .30203 | 824 | .99272 | 1,5 | .0073 | |
| .807 | .24989 | 831 | .31027 | 825 | .99273 | 1,4 | .0073 | |
| .808 | .25820 | 832 | .31853 | 826 | .99275 | 1,4 | .0073 | |
| .809 | .26653 | 833 | .32679 | 827 | .99276 | 1,4 | .0073 | |
| 2.810 | 8.27486 | 834 | 8.33506 | 827 | 0.99278 | 1,4 | 1.0073 | 0,1 |
| .811 | .28320 | 834 | .34334 | 828 | .99279 | 1,4 | .0073 | |
| .812 | .29154 | 835 | .35103 | 829 | .99281 | 1,4 | .0072 | |
| .813 | .29990 | 836 | .35992 | 830 | .99282 | 1,4 | .0072 | |
| .814 | .30826 | 837 | .36823 | 831 | .99283 | 1,4 | .0072 | |
| 2.815 | 8.31664 | 838 | 8.37654 | 832 | 0.99285 | 1,4 | 1.0072 | 0,1 |
| .816 | .32502 | 838 | .38486 | 833 | .99286 | 1,4 | .0072 | |
| .817 | .33341 | 839 | .39319 | 833 | .99288 | 1,4 | .0072 | |
| .818 | .34180 | 840 | .40153 | 834 | .99289 | 1,4 | .0072 | |
| .819 | .35021 | 841 | .40987 | 835 | .99291 | 1,4 | .0071 | |
| 2.820 | 8.35862 | 842 | 8.41823 | 836 | 0.99292 | 1,4 | 1.0071 | 0,1 |
| .821 | .36704 | 843 | .42659 | 837 | .99293 | 1,4 | .0071 | |
| .822 | .37548 | 843 | .43496 | 838 | .99295 | 1,4 | .0071 | |
| .823 | .38391 | 844 | .44334 | 838 | .99296 | 1,4 | .0071 | |
| .824 | .39236 | 845 | .45173 | 839 | .99298 | 1,4 | .0071 | |
| 2.825 | 8.40082 | 846 | 8.46013 | 840 | 0.99299 | 1,4 | 1.0071 | 0,1 |
| .826 | .40928 | 847 | .46853 | 841 | .99300 | 1,4 | .0070 | |
| .827 | .41776 | 848 | .47695 | 842 | .99302 | 1,4 | .0070 | |
| .828 | .42624 | 849 | .48537 | 843 | .99303 | 1,4 | .0070 | |
| .829 | .43473 | 849 | .49380 | 843 | .99305 | 1,4 | .0070 | |
| 2.830 | 8.44322 | 850 | 8.50224 | 844 | 0.99306 | 1,4 | 1.0070 | 0,1 |
| .831 | .45173 | 851 | .51068 | 845 | .99307 | 1,4 | .0070 | |
| .832 | .46025 | 852 | .51914 | 846 | .99309 | 1,4 | .0070 | |
| .833 | .46877 | 853 | .52760 | 847 | .99310 | 1,4 | .0069 | |
| .834 | .47730 | 854 | .53608 | 848 | .99311 | 1,4 | .0069 | |
| 2.835 | 8.48584 | 854 | 8.54456 | 849 | 0.99313 | 1,4 | 1.0069 | 0,1 |
| .836 | .49439 | 855 | .55305 | 849 | .99314 | 1,4 | .0069 | |
| .837 | .50295 | 856 | .56155 | 850 | .99316 | 1,4 | .0069 | |
| .838 | .51151 | 857 | .57006 | 851 | .99317 | 1,4 | .0069 | |
| .839 | .52009 | 858 | .57857 | 852 | .99318 | 1,4 | .0069 | |
| 2.840 | 8.52867 | 859 | 8.58710 | 853 | 0.99320 | 1,4 | 1.0069 | 0,1 |
| .841 | .53726 | 860 | .59563 | 854 | .99321 | 1,4 | .0068 | |
| .842 | .54586 | 860 | .60417 | 855 | .99322 | 1,4 | .0068 | |
| .843 | .55447 | 861 | .61272 | 855 | .99324 | 1,3 | .0068 | |
| .844 | .56309 | 862 | .62128 | 856 | .99325 | 1,3 | .0068 | |
| 2.845 | 8.57171 | 863 | 8.62985 | 857 | 0.99326 | 1,3 | 1.0068 | 0,1 |
| .846 | .58035 | 864 | .63842 | 858 | .99328 | 1,3 | .0068 | |
| .847 | .58899 | 865 | .64701 | 859 | .99329 | 1,3 | .0068 | |
| .848 | .59764 | 866 | .65560 | 860 | .99330 | 1,3 | .0067 | |
| .849 | .60630 | 866 | .66420 | 861 | .99332 | 1,3 | .0067 | |
| 2.850 | 8.61497 | 867 | 8.67281 | 861 | 0.99333 | 1,3 | 1.0067 | 0,1 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.850 | 8.61497 | 867 | 8.67281 | 861 | 0.99333 | 1,3 | 1.0067 | 0,1 |
| .851 | .62365 | 868 | .68143 | 862 | .99334 | 1,3 | .0067 | |
| .852 | .63233 | 869 | .69006 | 863 | .99336 | 1,3 | .0067 | |
| .853 | .64103 | 870 | .69870 | 864 | .99337 | 1,3 | .0067 | |
| .854 | .64973 | 871 | .70734 | 865 | .99338 | 1,3 | .0067 | |
| 2.855 | 8.65844 | 872 | 8.71600 | 866 | 0.99340 | 1,3 | 1.0066 | 0,1 |
| .856 | .66716 | 872 | .72466 | 867 | .99341 | 1,3 | .0066 | |
| .857 | .67589 | 873 | .73333 | 868 | .99342 | 1,3 | .0066 | |
| .858 | .68463 | 874 | .74201 | 868 | .99344 | 1,3 | .0066 | |
| .859 | .69337 | 875 | .75070 | 869 | .99345 | 1,3 | .0066 | |
| 2.860 | 8.70213 | 876 | 8.75940 | 870 | 0.99346 | 1,3 | 1.0066 | 0,1 |
| .861 | .71089 | 877 | .76810 | 871 | .99348 | 1,3 | .0066 | |
| .862 | .71967 | 878 | .77682 | 872 | .99349 | 1,3 | .0066 | |
| .863 | .72845 | 879 | .78554 | 873 | .99350 | 1,3 | .0065 | |
| .864 | .73724 | 879 | .79428 | 874 | .99351 | 1,3 | .0065 | |
| 2.865 | 8.74604 | 880 | 8.80302 | 875 | 0.99353 | 1,3 | 1.0065 | 0,1 |
| .865 | .75484 | 881 | .81177 | 875 | .99354 | 1,3 | .0065 | |
| .867 | .76366 | 882 | .82053 | 876 | .99355 | 1,3 | .0065 | |
| .868 | .77248 | 883 | .82930 | 877 | .99357 | 1,3 | .0065 | |
| .869 | .78132 | 884 | .83807 | 878 | .99358 | 1,3 | .0065 | |
| 2.870 | 8.79016 | 885 | 8.84686 | 879 | 0.99359 | 1,3 | 1.0065 | 0,1 |
| .871 | .79901 | 886 | .85565 | 880 | .99360 | 1,3 | .0064 | |
| .872 | .80787 | 886 | .86446 | 881 | .99362 | 1,3 | .0064 | |
| .873 | .81674 | 887 | .87327 | 882 | .99363 | 1,3 | .0064 | |
| .874 | .82562 | 888 | .88209 | 883 | .99364 | 1,3 | .0064 | |
| 2.875 | 8.83450 | 889 | 8.89092 | 883 | 0.99365 | 1,3 | 1.0064 | 0,1 |
| .876 | .84340 | 890 | .89976 | 884 | .99367 | 1,3 | .0064 | |
| .877 | .85230 | 891 | .90861 | 885 | .99368 | 1,3 | .0064 | |
| .878 | .86122 | 892 | .91746 | 886 | .99369 | 1,3 | .0063 | |
| .879 | .87014 | 893 | .92633 | 887 | .99371 | 1,3 | .0063 | |
| 2.880 | 8.87907 | 894 | 8.93520 | 888 | 0.99372 | 1,3 | 1.0063 | 0,1 |
| .881 | .88801 | 894 | .94409 | 889 | .99373 | 1,3 | .0063 | |
| .882 | .89696 | 895 | .95298 | 890 | .99374 | 1,2 | .0063 | |
| .883 | .90591 | 896 | .96188 | 891 | .99376 | 1,2 | .0063 | |
| .884 | .91488 | 897 | .97079 | 891 | .99377 | 1,2 | .0063 | |
| 2.885 | 8.92386 | 898 | 8.97971 | 892 | 0.99378 | 1,2 | 1.0063 | 0,1 |
| .886 | .93284 | 899 | .98864 | 893 | .99379 | 1,2 | .0062 | |
| .887 | .94183 | 900 | .99758 | 894 | .99380 | 1,2 | .0062 | |
| .888 | .95084 | 901 | 9.00652 | 895 | .99382 | 1,2 | .0062 | |
| .889 | .95985 | 902 | .01548 | 896 | .99383 | 1,2 | .0062 | |
| 2.890 | 8.96887 | 902 | 9.02444 | 897 | 0.99384 | 1,2 | 1.0062 | 0,1 |
| .891 | .97790 | 903 | .03342 | 898 | .99385 | 1,2 | .0062 | |
| .892 | .98693 | 904 | .04240 | 899 | .99387 | 1,2 | .0062 | |
| .893 | .99598 | 905 | .05139 | 900 | .99388 | 1,2 | .0062 | |
| .894 | 9.00504 | 906 | .06039 | 901 | .99389 | 1,2 | .0061 | |
| 2.895 | 9.01410 | 907 | 9.06940 | 901 | 0.99390 | 1,2 | 1.0061 | 0,1 |
| .896 | .02318 | 908 | .07842 | 902 | .99391 | 1,2 | .0061 | |
| .897 | .03226 | 909 | .08745 | 903 | .99393 | 1,2 | .0061 | |
| .898 | .04135 | 910 | .09648 | 904 | .99394 | 1,2 | .0061 | |
| .899 | .05045 | 911 | .10553 | 905 | .99395 | 1,2 | .0061 | |
| 2.900 | 9.05956 | 911 | 9.11458 | 906 | 0.99396 | 1,2 | 1.0061 | 0,1 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|---------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.900 | 9.05956 | 911 | 9.11458 | 906 | 0.99396 | 1,2 | 1.0061 | 0,1 |
| .901 | .06868 | 912 | .12365 | 907 | .99398 | 1,2 | .0061 | |
| .902 | .07781 | 913 | .13272 | 908 | .99399 | 1,2 | .0060 | |
| .903 | .08605 | 914 | .14180 | 909 | .99400 | 1,2 | .0060 | |
| .904 | .09609 | 915 | .15090 | 910 | .99401 | 1,2 | .0060 | |
| 2.905 | 9.10525 | 916 | 9.16000 | 911 | 0.99402 | 1,2 | 1.0060 | 0,1 |
| .906 | .11441 | 917 | .16911 | 911 | .99403 | 1,2 | .0060 | |
| .907 | .12359 | 918 | .17823 | 912 | .99405 | 1,2 | .0060 | |
| .908 | .13277 | 919 | .18735 | 913 | .99406 | 1,2 | .0060 | |
| .909 | .14196 | 920 | .19649 | 914 | .99407 | 1,2 | .0060 | |
| 2.910 | 9.15116 | 921 | 9.20564 | 915 | 0.99408 | 1,2 | 1.0060 | 0,1 |
| .911 | .16037 | 921 | .21479 | 916 | .99409 | 1,2 | .0059 | |
| .912 | .16959 | 922 | .22396 | 917 | .99411 | 1,2 | .0059 | |
| .913 | .17882 | 923 | .23313 | 918 | .99412 | 1,2 | .0059 | |
| .914 | .18806 | 924 | .24232 | 919 | .99413 | 1,2 | .0059 | |
| 2.915 | 9.19730 | 925 | 9.25151 | 920 | 0.99414 | 1,2 | 1.0059 | 0,1 |
| .916 | .20656 | 926 | .26071 | 921 | .99415 | 1,2 | .0059 | |
| .917 | .21583 | 927 | .26992 | 922 | .99416 | 1,2 | .0059 | |
| .918 | .22510 | 928 | .27914 | 923 | .99418 | 1,2 | .0059 | |
| .919 | .23438 | 929 | .28837 | 923 | .99419 | 1,2 | .0058 | |
| 2.920 | 9.24368 | 930 | 9.29761 | 924 | 0.99420 | 1,2 | 1.0058 | 0,1 |
| .921 | .25298 | 931 | .30686 | 925 | .99421 | 1,2 | .0058 | |
| .922 | .26229 | 932 | .31612 | 926 | .99422 | 1,2 | .0058 | |
| .923 | .27161 | 933 | .32538 | 927 | .99423 | 1,1 | .0058 | |
| .924 | .28094 | 933 | .33466 | 928 | .99425 | 1,1 | .0058 | |
| 2.925 | 9.29028 | 934 | 9.34395 | 929 | 0.99426 | 1,1 | 1.0058 | 0,1 |
| .926 | .29963 | 935 | .35324 | 930 | .99427 | 1,1 | .0058 | |
| .927 | .30899 | 936 | .36254 | 931 | .99428 | 1,1 | .0058 | |
| .928 | .31835 | 937 | .37186 | 932 | .99429 | 1,1 | .0057 | |
| .929 | .32773 | 938 | .38118 | 933 | .99430 | 1,1 | .0057 | |
| 2.930 | 9.33712 | 939 | 9.39051 | 934 | 0.99531 | 1,1 | 1.0057 | 0,1 |
| .931 | .34651 | 940 | .39986 | 935 | .99433 | 1,1 | .0057 | |
| .932 | .35592 | 941 | .40921 | 936 | .99434 | 1,1 | .0057 | |
| .933 | .36533 | 942 | .41857 | 937 | .99435 | 1,1 | .0057 | |
| .934 | .37475 | 943 | .42794 | 937 | .99436 | 1,1 | .0057 | |
| 2.935 | 9.38419 | 944 | 9.43732 | 938 | 0.99437 | 1,1 | 1.0057 | 0,1 |
| .936 | .39363 | 945 | .44671 | 939 | .99438 | 1,1 | .0057 | |
| .937 | .40308 | 946 | .45610 | 940 | .99439 | 1,1 | .0056 | |
| .938 | .41254 | 947 | .46551 | 941 | .99440 | 1,1 | .0056 | |
| .939 | .42201 | 947 | .47493 | 942 | .99441 | 1,1 | .0056 | |
| 2.940 | 9.43149 | 948 | 9.48436 | 943 | 0.99443 | 1,1 | 1.0056 | 0,1 |
| .941 | .44098 | 949 | .49379 | 944 | .99444 | 1,1 | .0056 | |
| .942 | .45048 | 950 | .50324 | 945 | .99445 | 1,1 | .0056 | |
| .943 | .45999 | 951 | .51269 | 946 | .99446 | 1,1 | .0056 | |
| .944 | .46950 | 952 | .52216 | 947 | .99447 | 1,1 | .0056 | |
| 2.945 | 9.47903 | 953 | 9.53163 | 948 | 0.99448 | 1,1 | 1.0055 | 0,1 |
| .946 | .48857 | 954 | .54112 | 949 | .99449 | 1,1 | .0055 | |
| .947 | .49811 | 955 | .55061 | 950 | .99450 | 1,1 | .0055 | |
| .948 | .50767 | 956 | .56011 | 951 | .99451 | 1,1 | .0055 | |
| .949 | .51723 | 957 | .56962 | 952 | .99453 | 1,1 | .0055 | |
| 2.950 | 9.52681 | 958 | 9.57915 | 953 | 0.99454 | 1,1 | 1.0055 | 0,1 |
| u | tanh u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|-------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 2.950 | 9.52681 | 958 | 9.57915 | 953 | 0.99454 | I, I | I.0055 | 0, I |
| .951 | .53639 | 959 | .58868 | 954 | .99455 | I, I | .0055 | |
| .952 | .54598 | 960 | .59822 | 955 | .99456 | I, I | .0055 | |
| .953 | .55559 | 961 | .60777 | 956 | .99457 | I, I | .0055 | |
| .954 | .56520 | 962 | .61733 | 957 | .99458 | I, I | .0055 | |
| 2.955 | 9.57482 | 963 | 9.62690 | 957 | 0.99459 | I, I | I.0054 | 0, I |
| .956 | .58445 | 964 | .63648 | 958 | .99460 | I, I | .0054 | |
| .957 | .59410 | 965 | .64607 | 959 | .99461 | I, I | .0054 | |
| .958 | .60375 | 966 | .65567 | 960 | .99462 | I, I | .0054 | |
| .959 | .61341 | 967 | .66528 | 961 | .99463 | I, I | .0054 | |
| 2.960 | 9.62308 | 967 | 9.67490 | 962 | 0.99464 | I, I | I.0054 | 0, I |
| .961 | .63276 | 968 | .68452 | 963 | .99465 | I, I | .0054 | |
| .962 | .64245 | 969 | .69416 | 964 | .99467 | I, I | .0054 | |
| .963 | .65214 | 970 | .70381 | 965 | .99468 | I, I | .0054 | |
| .964 | .66185 | 971 | .71347 | 966 | .99469 | I, I | .0053 | |
| 2.965 | 9.67157 | 972 | 9.72313 | 967 | 0.99470 | I, I | I.0053 | 0, I |
| .966 | .68130 | 973 | .73281 | 968 | .99471 | I, I | .0053 | |
| .967 | .69104 | 974 | .74249 | 969 | .99472 | I, I | .0053 | |
| .968 | .70078 | 975 | .75219 | 970 | .99473 | I, I | .0053 | |
| .969 | .71054 | 976 | .76190 | 971 | .99474 | I, I | .0053 | |
| 2.970 | 9.72031 | 977 | 9.77161 | 972 | 0.99475 | I, I | I.0053 | 0, I |
| .971 | .73008 | 978 | .78134 | 973 | .99476 | I, I | .0053 | |
| .972 | .73987 | 979 | .79107 | 974 | .99477 | I, I | .0053 | |
| .973 | .74967 | 980 | .80082 | 975 | .99478 | I, I | .0052 | |
| .974 | .75947 | 981 | .81057 | 976 | .99479 | I, I | .0052 | |
| 2.975 | 9.76929 | 982 | 9.82034 | 977 | 0.99480 | I, I | I.0052 | 0, I |
| .976 | .77911 | 983 | .83011 | 978 | .99481 | I, I | .0052 | |
| .977 | .78895 | 984 | .83989 | 979 | .99482 | I, I | .0052 | |
| .978 | .79879 | 985 | .84969 | 980 | .99483 | I, I | .0052 | |
| .979 | .80855 | 986 | .85949 | 981 | .99484 | I, I | .0052 | |
| 2.980 | 9.81851 | 987 | 9.86930 | 982 | 0.99485 | I, I | I.0052 | 0, I |
| .981 | .82839 | 988 | .87913 | 983 | .99486 | I, I | .0052 | |
| .982 | .83827 | 989 | .88896 | 984 | .99487 | I, I | .0052 | |
| .983 | .84816 | 990 | .89880 | 985 | .99488 | I, I | .0051 | |
| .984 | .85807 | 991 | .90866 | 986 | .99489 | I, I | .0051 | |
| 2.985 | 9.86798 | 992 | 9.91852 | 987 | 0.99490 | I, I | I.0051 | 0, I |
| .986 | .87790 | 993 | .92839 | 988 | .99491 | I, I | .0051 | |
| .987 | .88784 | 994 | .93828 | 989 | .99492 | I, I | .0051 | |
| .988 | .89778 | 995 | .94817 | 990 | .99493 | I, I | .0051 | |
| .989 | .90773 | 996 | .95807 | 991 | .99495 | I, I | .0051 | |
| 2.990 | 9.91770 | 997 | 9.96798 | 992 | 0.99496 | I, I | I.0051 | 0, I |
| .991 | .92767 | 998 | .97791 | 993 | .99497 | I, I | .0051 | |
| .992 | .93765 | 999 | .98784 | 994 | .99498 | I, I | .0051 | |
| .993 | .94765 | 1000 | .99778 | 995 | .99499 | I, I | .0050 | |
| .994 | .95765 | 1001 | 10.00774 | 996 | .99500 | I, I | .0050 | |
| 2.995 | 9.96766 | 1002 | 10.01770 | 997 | 0.99501 | I, I | I.0050 | 0, I |
| .996 | .97768 | 1003 | .02767 | 998 | .99502 | I, I | .0050 | |
| .997 | .98772 | 1004 | .03765 | 999 | .99503 | I, I | .0050 | |
| .998 | .99776 | 1005 | .04765 | 1000 | .99504 | I, I | .0050 | |
| .999 | 10.00781 | 1006 | .05765 | 1001 | .99504 | I, I | .0050 | |
| 3.000 | 10.01787 | 1007 | 10.06766 | 1002 | 0.99505 | I, I | I.0050 | 0, I |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 3.00 | 10.0179 | 1007 | 10.0677 | 1002 | 0.99505 | 9,9 | 1.0050 | 1,0 |
| .01 | 10.1191 | 1017 | 10.1683 | 1012 | .99515 | 9,7 | .0049 | 1,0 |
| .02 | 10.2212 | 1027 | 10.2700 | 1022 | .99525 | 9,5 | .0048 | 1,0 |
| .03 | 10.3245 | 1037 | 10.3728 | 1032 | .99534 | 9,3 | .0047 | 0,9 |
| .04 | 10.4287 | 1048 | 10.4765 | 1043 | .99543 | 9,1 | .0046 | 0,9 |
| 3.05 | 10.5340 | 1058 | 10.5814 | 1053 | 0.99552 | 8,9 | 1.0045 | 0,9 |
| .06 | 10.6403 | 1069 | 10.6872 | 1064 | .99561 | 8,8 | .0044 | 0,9 |
| .07 | 10.7477 | 1079 | 10.7942 | 1075 | .99570 | 8,6 | .0043 | 0,9 |
| .08 | 10.8562 | 1090 | 10.9022 | 1086 | .99578 | 8,4 | .0042 | 0,8 |
| .09 | 10.9658 | 1101 | 11.0113 | 1097 | .99587 | 8,2 | .0041 | 0,8 |
| 3.10 | 11.0765 | 1112 | 11.1215 | 1108 | 0.99595 | 8,1 | 1.0041 | 0,8 |
| .11 | 11.1882 | 1123 | 11.2328 | 1119 | .99603 | 7,9 | .0040 | 0,8 |
| .12 | 11.3011 | 1135 | 11.3453 | 1130 | .99611 | 7,8 | .0039 | 0,8 |
| .13 | 11.4151 | 1146 | 11.4588 | 1142 | .99618 | 7,6 | .0038 | 0,8 |
| .14 | 11.5303 | 1157 | 11.5736 | 1153 | .99626 | 7,5 | .0038 | 0,8 |
| 3.15 | 11.6466 | 1169 | 11.6895 | 1165 | 0.99633 | 7,3 | 1.0037 | 0,7 |
| .16 | 11.7641 | 1181 | 11.8065 | 1176 | .99641 | 7,2 | .0036 | 0,7 |
| .17 | 11.8827 | 1192 | 11.9247 | 1188 | .99648 | 7,0 | .0035 | 0,7 |
| .18 | 12.0026 | 1204 | 12.0442 | 1200 | .99655 | 6,9 | .0035 | 0,7 |
| .19 | 12.1236 | 1216 | 12.1648 | 1212 | .99662 | 6,8 | .0034 | 0,7 |
| 3.20 | 12.2459 | 1229 | 12.2866 | 1225 | 0.99668 | 6,6 | 1.0033 | 0,7 |
| .21 | 12.3694 | 1241 | 12.4097 | 1237 | .99675 | 6,5 | .0033 | 0,7 |
| .22 | 12.4941 | 1253 | 12.5340 | 1249 | .99681 | 6,4 | .0032 | 0,6 |
| .23 | 12.6200 | 1266 | 12.6595 | 1262 | .99688 | 6,2 | .0031 | 0,6 |
| .24 | 12.7473 | 1279 | 12.7854 | 1275 | .99694 | 6,1 | .0031 | 0,6 |
| 3.25 | 12.8758 | 1291 | 12.9146 | 1288 | 0.99700 | 6,0 | 1.0030 | 0,6 |
| .26 | 13.0056 | 1304 | 13.0440 | 1301 | .99706 | 5,9 | .0030 | 0,6 |
| .27 | 13.1367 | 1317 | 13.1747 | 1314 | .99712 | 5,8 | .0029 | 0,6 |
| .28 | 13.2691 | 1331 | 13.3067 | 1327 | .99717 | 5,6 | .0028 | 0,6 |
| .29 | 13.4028 | 1344 | 13.4401 | 1340 | .99723 | 5,5 | .0028 | 0,6 |
| 3.30 | 13.5379 | 1357 | 13.5748 | 1354 | 0.99728 | 5,4 | 1.0027 | 0,5 |
| .31 | 13.6743 | 1371 | 13.7108 | 1367 | .99734 | 5,3 | .0027 | 0,5 |
| .32 | 13.8121 | 1385 | 13.8483 | 1381 | .99739 | 5,2 | .0026 | 0,5 |
| .33 | 13.9513 | 1399 | 13.9871 | 1395 | .99744 | 5,1 | .0026 | 0,5 |
| .34 | 14.0918 | 1413 | 14.1273 | 1409 | .99749 | 5,0 | .0025 | 0,5 |
| 3.35 | 14.2338 | 1427 | 14.2689 | 1423 | 0.99754 | 4,9 | 1.0025 | 0,5 |
| .36 | 14.3772 | 1441 | 14.4120 | 1438 | .99759 | 4,8 | .0024 | 0,5 |
| .37 | 14.5221 | 1456 | 14.5565 | 1452 | .99764 | 4,7 | .0024 | 0,5 |
| .38 | 14.6684 | 1470 | 14.7024 | 1467 | .99768 | 4,6 | .0023 | 0,5 |
| .39 | 14.8161 | 1485 | 14.8498 | 1482 | .99773 | 4,5 | .0023 | 0,5 |
| 3.40 | 14.9654 | 1500 | 14.9987 | 1497 | 0.99777 | 4,4 | 1.0022 | 0,4 |
| .41 | 15.1161 | 1515 | 15.1491 | 1512 | .99782 | 4,4 | .0022 | 0,4 |
| .42 | 15.2684 | 1530 | 15.3011 | 1527 | .99786 | 4,3 | .0021 | 0,4 |
| .43 | 15.4221 | 1545 | 15.4545 | 1542 | .99790 | 4,2 | .0021 | 0,4 |
| .44 | 15.5771 | 1561 | 15.6095 | 1558 | .99795 | 4,1 | .0021 | 0,4 |
| 3.45 | 15.7343 | 1577 | 15.7661 | 1573 | 0.99799 | 4,0 | 1.0020 | 0,4 |
| .46 | 15.8928 | 1592 | 15.9242 | 1589 | .99803 | 3,9 | .0020 | 0,4 |
| .47 | 16.0528 | 1608 | 16.0839 | 1605 | .99807 | 3,9 | .0019 | 0,4 |
| .48 | 16.2145 | 1625 | 16.2453 | 1621 | .99810 | 3,8 | .0019 | 0,4 |
| .49 | 16.3777 | 1641 | 16.4082 | 1638 | .99814 | 3,7 | .0019 | 0,4 |
| 3.50 | 16.5426 | 1657 | 16.5728 | 1654 | 0.99818 | 3,6 | 1.0018 | 0,4 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 3.50 | 16.5426 | 1657 | 16.5728 | 1654 | 0.99818 | 3,6 | 1.0018 | 0,4 |
| .51 | 16.7092 | 1674 | 16.7391 | 1671 | .99821 | 3,6 | .0018 | 0,4 |
| .52 | 16.8774 | 1691 | 16.9070 | 1688 | .99825 | 3,5 | .0018 | 0,4 |
| .53 | 17.0473 | 1708 | 17.0766 | 1705 | .99828 | 3,4 | .0017 | 0,3 |
| .54 | 17.2190 | 1725 | 17.2480 | 1722 | .99832 | 3,4 | .0017 | 0,3 |
| 3.55 | 17.3923 | 1742 | 17.4210 | 1739 | 0.99835 | 3,3 | 1.0017 | 0,3 |
| .56 | 17.5674 | 1760 | 17.5958 | 1757 | .99838 | 3,2 | .0016 | 0,3 |
| .57 | 17.7442 | 1777 | 17.7724 | 1774 | .99842 | 3,2 | .0016 | 0,3 |
| .58 | 17.9228 | 1795 | 17.9507 | 1792 | .99845 | 3,1 | .0016 | 0,3 |
| .59 | 18.1032 | 1813 | 18.1308 | 1810 | .99848 | 3,0 | .0015 | 0,3 |
| 3.60 | 18.2855 | 1831 | 18.3128 | 1829 | 0.99851 | 3,0 | 1.0015 | 0,3 |
| .61 | 18.4695 | 1850 | 18.4966 | 1847 | .99854 | 2,9 | .0015 | 0,3 |
| .62 | 18.6554 | 1868 | 18.6822 | 1866 | .99857 | 2,9 | .0014 | 0,3 |
| .63 | 18.8432 | 1887 | 18.8697 | 1884 | .99859 | 2,8 | .0014 | 0,3 |
| .64 | 19.0328 | 1906 | 19.0590 | 1903 | .99862 | 2,8 | .0014 | 0,3 |
| 3.65 | 19.2243 | 1925 | 19.2503 | 1922 | 0.99865 | 2,7 | 1.0014 | 0,3 |
| .66 | 19.4178 | 1944 | 19.4435 | 1942 | .99868 | 2,6 | .0013 | 0,3 |
| .67 | 19.6132 | 1964 | 19.6387 | 1961 | .99870 | 2,6 | .0013 | 0,3 |
| .68 | 19.8106 | 1984 | 19.8358 | 1981 | .99873 | 2,5 | .0013 | 0,3 |
| .69 | 20.0099 | 2003 | 20.0349 | 2001 | .99875 | 2,5 | .0012 | 0,2 |
| 3.70 | 20.2113 | 2024 | 20.2360 | 2021 | 0.99878 | 2,4 | 1.0012 | 0,2 |
| .71 | 20.4147 | 2044 | 20.4391 | 2041 | .99880 | 2,4 | .0012 | 0,2 |
| .72 | 20.6201 | 2064 | 20.6443 | 2062 | .99883 | 2,3 | .0012 | 0,2 |
| .73 | 20.8276 | 2085 | 20.8516 | 2083 | .99885 | 2,3 | .0012 | 0,2 |
| .74 | 21.0371 | 2106 | 21.0609 | 2104 | .99887 | 2,3 | .0011 | 0,2 |
| 3.75 | 21.2488 | 2127 | 21.2723 | 2125 | 0.99889 | 2,2 | 1.0011 | 0,2 |
| .76 | 21.4626 | 2149 | 21.4859 | 2146 | .99892 | 2,2 | .0011 | 0,2 |
| .77 | 21.6785 | 2170 | 21.7016 | 2168 | .99894 | 2,1 | .0011 | 0,2 |
| .78 | 21.8966 | 2192 | 21.9194 | 2190 | .99896 | 2,1 | .0010 | 0,2 |
| .79 | 22.1169 | 2214 | 22.1395 | 2212 | .99898 | 2,0 | .0010 | 0,2 |
| 3.80 | 22.3394 | 2236 | 22.3618 | 2234 | 0.99900 | 2,0 | 1.0010 | 0,2 |
| .81 | 22.5641 | 2259 | 22.5863 | 2256 | .99902 | 2,0 | .0010 | 0,2 |
| .82 | 22.7911 | 2281 | 22.8131 | 2279 | .99904 | 1,9 | .0010 | 0,2 |
| .83 | 23.0204 | 2304 | 23.0421 | 2302 | .99906 | 1,9 | .0009 | 0,2 |
| .84 | 23.2520 | 2327 | 23.2735 | 2325 | .99908 | 1,8 | .0009 | 0,2 |
| 3.85 | 23.4859 | 2351 | 23.5072 | 2349 | 0.99909 | 1,8 | 1.0009 | 0,2 |
| .86 | 23.7221 | 2374 | 23.7432 | 2372 | .99911 | 1,8 | .0009 | 0,2 |
| .87 | 23.9608 | 2398 | 23.9816 | 2396 | .99913 | 1,7 | .0009 | 0,2 |
| .88 | 24.2018 | 2422 | 24.2224 | 2420 | .99915 | 1,7 | .0009 | 0,2 |
| .89 | 24.4452 | 2447 | 24.4657 | 2445 | .99916 | 1,7 | .0008 | 0,2 |
| 3.90 | 24.6911 | 2471 | 24.7113 | 2469 | 0.99918 | 1,6 | 1.0008 | 0,2 |
| .91 | 24.9395 | 2496 | 24.9595 | 2494 | .99920 | 1,6 | .0008 | 0,2 |
| .92 | 25.1903 | 2521 | 25.2101 | 2519 | .99921 | 1,6 | .0008 | 0,2 |
| .93 | 25.4437 | 2546 | 25.4633 | 2544 | .99923 | 1,5 | .0008 | 0,2 |
| .94 | 25.6996 | 2572 | 25.7190 | 2570 | .99924 | 1,5 | .0008 | 0,2 |
| 3.95 | 25.9581 | 2598 | 25.9773 | 2596 | 0.99926 | 1,5 | 1.0007 | 0,1 |
| .96 | 26.2191 | 2624 | 26.2382 | 2622 | .99927 | 1,5 | .0007 | 0,1 |
| .97 | 26.4828 | 2650 | 26.5017 | 2648 | .99929 | 1,4 | .0007 | 0,1 |
| .98 | 26.7492 | 2677 | 26.7679 | 2675 | .99930 | 1,4 | .0007 | 0,1 |
| .99 | 27.0182 | 2704 | 27.0367 | 2702 | .99932 | 1,4 | .0007 | 0,1 |
| 4.00 | 27.2899 | 2731 | 27.3082 | 2729 | 0.99933 | 1,3 | 1.0007 | 0,1 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 4.00 | 27.2899 | 2731 | 27.3082 | 2729 | 0.99933 | 1.3 | 1.0007 | 0.1 |
| .01 | 27.5644 | 2758 | 27.5825 | 2756 | .99934 | 1.3 | .0007 | |
| .02 | 27.8416 | 2786 | 27.8595 | 2784 | .99936 | 1.3 | .0006 | |
| .03 | 28.1216 | 2814 | 28.1393 | 2812 | .99937 | 1.3 | .0006 | |
| .04 | 28.4044 | 2842 | 28.4220 | 2840 | .99938 | 1.2 | .0006 | |
| 4.05 | 28.6900 | 2871 | 28.7074 | 2869 | 0.99939 | 1.2 | 1.0006 | 0.1 |
| .06 | 28.9785 | 2900 | 28.9958 | 2898 | .99941 | 1.2 | .0006 | |
| .07 | 29.2699 | 2929 | 29.2870 | 2927 | .99942 | 1.2 | .0006 | |
| .08 | 29.5643 | 2958 | 29.5812 | 2956 | .99943 | 1.1 | .0006 | |
| .09 | 29.8616 | 2988 | 29.8783 | 2986 | .99944 | 1.1 | .0006 | |
| 4.10 | 30.1619 | 3018 | 30.1784 | 3016 | 0.99945 | 1.1 | 1.0005 | 0.1 |
| .11 | 30.4652 | 3048 | 30.4816 | 3047 | .99946 | 1.1 | .0005 | |
| .12 | 30.7715 | 3079 | 30.7877 | 3077 | .99947 | 1.1 | .0005 | |
| .13 | 31.0809 | 3110 | 31.0970 | 3108 | .99948 | 1.0 | .0005 | |
| .14 | 31.3934 | 3141 | 31.4094 | 3139 | .99949 | 1.0 | .0005 | |
| 4.15 | 31.7091 | 3172 | 31.7249 | 3171 | 0.99950 | 1.0 | 1.0005 | 0.1 |
| .16 | 32.0280 | 3204 | 32.0436 | 3203 | .99951 | 1.0 | .0005 | |
| .17 | 32.3500 | 3237 | 32.3655 | 3235 | .99952 | 1.0 | .0005 | |
| .18 | 32.6753 | 3269 | 32.6906 | 3268 | .99953 | 0.9 | .0005 | |
| .19 | 33.0038 | 3302 | 33.0190 | 3300 | .99954 | 0.9 | .0005 | |
| 4.20 | 33.3357 | 3335 | 33.3507 | 3334 | 0.99955 | 0.9 | 1.0004 | 0.1 |
| .21 | 33.6708 | 3369 | 33.6857 | 3367 | .99956 | 0.9 | .0004 | |
| .22 | 34.0094 | 3402 | 34.0241 | 3401 | .99957 | 0.9 | .0004 | |
| .23 | 34.3513 | 3437 | 34.3659 | 3435 | .99958 | 0.8 | .0004 | |
| .24 | 34.6967 | 3471 | 34.7111 | 3470 | .99958 | 0.8 | .0004 | |
| 4.25 | 35.0456 | 3506 | 35.0598 | 3505 | 0.99959 | 0.8 | 1.0004 | 0.1 |
| .26 | 35.3979 | 3541 | 35.4121 | 3540 | .99960 | 0.8 | .0004 | |
| .27 | 35.7538 | 3577 | 35.7678 | 3575 | .99961 | 0.8 | .0004 | |
| .28 | 36.1133 | 3613 | 36.1271 | 3611 | .99962 | 0.8 | .0004 | |
| .29 | 36.4764 | 3649 | 36.4901 | 3648 | .99962 | 0.8 | .0004 | |
| 4.30 | 36.8431 | 3686 | 36.8567 | 3684 | 0.99963 | 0.7 | 1.0004 | 0.1 |
| .31 | 37.2135 | 3723 | 37.2270 | 3721 | .99964 | 0.7 | .0004 | |
| .32 | 37.5877 | 3760 | 37.6010 | 3759 | .99965 | 0.7 | .0004 | |
| .33 | 37.9656 | 3798 | 37.9787 | 3797 | .99965 | 0.7 | .0003 | |
| .34 | 38.3473 | 3836 | 38.3603 | 3835 | .99966 | 0.7 | .0003 | |
| 4.35 | 38.7328 | 3875 | 38.7457 | 3873 | 0.99967 | 0.7 | 1.0003 | 0.1 |
| .36 | 39.1222 | 3913 | 39.1350 | 3912 | .99967 | 0.7 | .0003 | |
| .37 | 39.5155 | 3953 | 39.5281 | 3952 | .99968 | 0.6 | .0003 | |
| .38 | 39.9128 | 3993 | 39.9253 | 3991 | .99969 | 0.6 | .0003 | |
| .39 | 40.3140 | 4033 | 40.3264 | 4031 | .99969 | 0.6 | .0003 | |
| 4.40 | 40.7193 | 4073 | 40.7316 | 4072 | 0.99970 | 0.6 | 1.0003 | 0.1 |
| .41 | 41.1287 | 4114 | 41.1408 | 4113 | .99970 | 0.6 | .0003 | |
| .42 | 41.5421 | 4155 | 41.5542 | 4154 | .99971 | 0.6 | .0003 | |
| .43 | 41.9598 | 4197 | 41.9717 | 4196 | .99972 | 0.6 | .0003 | |
| .44 | 42.3816 | 4239 | 42.3934 | 4238 | .99972 | 0.6 | .0003 | |
| 4.45 | 42.8076 | 4282 | 42.8193 | 4281 | 0.99973 | 0.5 | 1.0003 | 0.1 |
| .46 | 43.2380 | 4325 | 43.2495 | 4324 | .99973 | 0.5 | .0003 | |
| .47 | 43.6726 | 4368 | 43.6841 | 4367 | .99974 | 0.5 | .0003 | |
| .48 | 44.1117 | 4412 | 44.1230 | 4411 | .99974 | 0.5 | .0003 | |
| .49 | 44.5551 | 4457 | 44.5663 | 4456 | .99975 | 0.5 | .0003 | |
| 4.50 | 45.0030 | 4501 | 45.0141 | 4500 | 0.99975 | 0.5 | 1.0002 | 0.0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 4.50 | 45.0030 | 4501 | 45.0141 | 4500 | 0.99975 | 0,5 | 1.0002 | 0,0 |
| .51 | 45.4554 | 4547 | 45.4664 | 4546 | .99976 | 0,5 | .0002 | |
| .52 | 45.9124 | 4592 | 45.9232 | 4591 | .99976 | 0,5 | .0002 | |
| .53 | 46.3739 | 4638 | 46.3847 | 4637 | .99977 | 0,5 | .0002 | |
| .54 | 46.8401 | 4685 | 46.8507 | 4684 | .99977 | 0,5 | .0002 | |
| 4.55 | 47.3109 | 4732 | 47.3215 | 4731 | 0.99978 | 0,4 | 1.0002 | 0,0 |
| .56 | 47.7865 | 4780 | 47.7970 | 4779 | .99978 | 0,4 | .0002 | |
| .57 | 48.2669 | 4828 | 48.2772 | 4827 | .99979 | 0,4 | .0002 | |
| .58 | 48.7521 | 4876 | 48.7623 | 4875 | .99979 | 0,4 | .0002 | |
| .59 | 49.2421 | 4925 | 49.2523 | 4924 | .99979 | 0,4 | .0002 | |
| 4.60 | 49.7371 | 4975 | 49.7472 | 4974 | 0.99980 | 0,4 | 1.0002 | 0,0 |
| .61 | 50.2371 | 5025 | 50.2471 | 5024 | .99980 | 0,4 | .0002 | |
| .62 | 50.7421 | 5075 | 50.7519 | 5074 | .99981 | 0,4 | .0002 | |
| .63 | 51.2522 | 5126 | 51.2619 | 5125 | .99981 | 0,4 | .0002 | |
| .64 | 51.7673 | 5178 | 51.7770 | 5177 | .99981 | 0,4 | .0002 | |
| 4.65 | 52.2877 | 5230 | 52.2973 | 5229 | 0.99982 | 0,4 | 1.0002 | 0,0 |
| .66 | 52.8133 | 5282 | 52.8228 | 5281 | .99982 | 0,4 | .0002 | |
| .67 | 53.3442 | 5335 | 53.3536 | 5334 | .99982 | 0,4 | .0002 | |
| .68 | 53.8804 | 5389 | 53.8897 | 5388 | .99983 | 0,3 | .0002 | |
| .69 | 54.4220 | 5443 | 54.4312 | 5442 | .99983 | 0,3 | .0002 | |
| 4.70 | 54.9690 | 5498 | 54.9781 | 5497 | 0.99983 | 0,3 | 1.0002 | 0,0 |
| .71 | 55.5216 | 5553 | 55.5306 | 5552 | .99984 | 0,3 | .0002 | |
| .72 | 56.0797 | 5609 | 56.0886 | 5608 | .99984 | 0,3 | .0002 | |
| .73 | 56.6434 | 5665 | 56.6522 | 5664 | .99984 | 0,3 | .0002 | |
| .74 | 57.2127 | 5722 | 57.2215 | 5721 | .99985 | 0,3 | .0002 | |
| 4.75 | 57.7878 | 5780 | 57.7965 | 5779 | 0.99985 | 0,3 | 1.0001 | 0,0 |
| .76 | 58.3687 | 5838 | 58.3772 | 5837 | .99985 | 0,3 | .0001 | |
| .77 | 58.9554 | 5896 | 58.9639 | 5896 | .99986 | 0,3 | .0001 | |
| .78 | 59.5480 | 5956 | 59.5564 | 5955 | .99986 | 0,3 | .0001 | |
| .79 | 60.1465 | 6015 | 60.1548 | 6015 | .99986 | 0,3 | .0001 | |
| 4.80 | 60.7511 | 6076 | 60.7593 | 6075 | 0.99986 | 0,3 | 1.0001 | 0,0 |
| .81 | 61.3617 | 6137 | 61.3699 | 6136 | .99987 | 0,3 | .0001 | |
| .82 | 61.9785 | 6199 | 61.9866 | 6198 | .99987 | 0,3 | .0001 | |
| .83 | 62.6015 | 6261 | 62.6095 | 6260 | .99987 | 0,3 | .0001 | |
| .84 | 63.2307 | 6324 | 63.2386 | 6323 | .99987 | 0,3 | .0001 | |
| 4.85 | 63.8663 | 6387 | 63.8741 | 6387 | 0.99988 | 0,2 | 1.0001 | 0,0 |
| .86 | 64.5082 | 6452 | 64.5160 | 6451 | .99988 | 0,2 | .0001 | |
| .87 | 65.1566 | 6516 | 65.1643 | 6516 | .99988 | 0,2 | .0001 | |
| .88 | 65.8115 | 6582 | 65.8191 | 6581 | .99988 | 0,2 | .0001 | |
| .89 | 66.4730 | 6648 | 66.4805 | 6647 | .99989 | 0,2 | .0001 | |
| 4.90 | 67.1412 | 6715 | 67.1486 | 6714 | 0.99989 | 0,2 | 1.0001 | 0,0 |
| .91 | 67.8160 | 6782 | 67.8234 | 6782 | .99989 | 0,2 | .0001 | |
| .92 | 68.4977 | 6850 | 68.5050 | 6850 | .99989 | 0,2 | .0001 | |
| .93 | 69.1861 | 6919 | 69.1934 | 6919 | .99990 | 0,2 | .0001 | |
| .94 | 69.8815 | 6989 | 69.8887 | 6988 | .99990 | 0,2 | .0001 | |
| 4.95 | 70.5839 | 7059 | 70.5910 | 7058 | 0.99990 | 0,2 | 1.0001 | 0,0 |
| .96 | 71.2934 | 7130 | 71.3004 | 7129 | .99990 | 0,2 | .0001 | |
| .97 | 72.0100 | 7202 | 72.0169 | 7201 | .99990 | 0,2 | .0001 | |
| .98 | 72.7338 | 7274 | 72.7406 | 7273 | .99991 | 0,2 | .0001 | |
| .99 | 73.4648 | 7347 | 73.4716 | 7346 | .99991 | 0,2 | .0001 | |
| 5.00 | 74.2032 | 7421 | 74.2099 | 7420 | 0.99991 | 0,2 | 1.0001 | 0,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | tanh u | $\omega F_0'$ | coth u | $\omega F_0'$ |
|------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|
| 5.00 | 74.2032 | 7421 | 74.2099 | 7420 | 0.999991 | 0,2 | 1.00001 | 0,0 |
| .01 | 74.9490 | 7496 | 74.9557 | 7495 | .999991 | 0,2 | .00001 | |
| .02 | 75.7023 | 7571 | 75.7090 | 7570 | .999991 | 0,2 | .00001 | |
| .03 | 76.4632 | 7647 | 76.4698 | 7646 | .999991 | 0,2 | .00001 | |
| .04 | 77.2318 | 7724 | 77.2382 | 7723 | .999992 | 0,2 | .00001 | |
| 5.05 | 78.0080 | 7801 | 78.0144 | 7801 | 0.999992 | 0,2 | 1.00001 | 0,0 |
| .06 | 78.7921 | 7880 | 78.7984 | 7879 | .999992 | 0,2 | .00001 | |
| .07 | 79.5840 | 7959 | 79.5903 | 7958 | .999992 | 0,2 | .00001 | |
| .08 | 80.3839 | 8039 | 80.3901 | 8038 | .999992 | 0,2 | .00001 | |
| .09 | 81.1918 | 8120 | 81.1980 | 8119 | .999992 | 0,2 | .00001 | |
| 5.10 | 82.0079 | 8201 | 82.0140 | 8201 | 0.999993 | 0,1 | 1.00001 | 0,0 |
| .11 | 82.8322 | 8284 | 82.8382 | 8283 | .999993 | 0,1 | .00001 | |
| .12 | 83.6647 | 8367 | 83.6707 | 8366 | .999993 | 0,1 | .00001 | |
| .13 | 84.5056 | 8451 | 84.5115 | 8451 | .999993 | 0,1 | .00001 | |
| .14 | 85.3550 | 8536 | 85.3608 | 8535 | .999993 | 0,1 | .00001 | |
| 5.15 | 86.2128 | 8622 | 86.2186 | 8621 | 0.999993 | 0,1 | 1.00001 | 0,0 |
| .16 | 87.0794 | 8709 | 87.0851 | 8708 | .999993 | 0,1 | .00001 | |
| .17 | 87.9546 | 8796 | 87.9603 | 8795 | .999994 | 0,1 | .00001 | |
| .18 | 88.8386 | 8884 | 88.8442 | 8884 | .999994 | 0,1 | .00001 | |
| .19 | 89.7315 | 8974 | 89.7371 | 8973 | .999994 | 0,1 | .00001 | |
| 5.20 | 90.6334 | 9064 | 90.6389 | 9063 | 0.999994 | 0,1 | 1.00001 | 0,0 |
| .21 | 91.5443 | 9155 | 91.5498 | 9154 | .999994 | 0,1 | .00001 | |
| .22 | 92.4644 | 9247 | 92.4698 | 9246 | .999994 | 0,1 | .00001 | |
| .23 | 93.3937 | 9340 | 93.3991 | 9339 | .999994 | 0,1 | .00001 | |
| .24 | 94.3324 | 9434 | 94.3377 | 9433 | .999994 | 0,1 | .00001 | |
| 5.25 | 95.2805 | 9529 | 95.2858 | 9528 | 0.999994 | 0,1 | 1.00001 | 0,0 |
| .26 | 96.2381 | 9624 | 96.2433 | 9624 | .999995 | 0,1 | .00001 | |
| .27 | 97.2054 | 9721 | 97.2106 | 9721 | .999995 | 0,1 | .00001 | |
| .28 | 98.1824 | 9819 | 98.1875 | 9818 | .999995 | 0,1 | .00001 | |
| .29 | 99.1692 | 9917 | 99.1742 | 9917 | .999995 | 0,1 | .00001 | |
| 5.30 | 100.1659 | 10017 | 100.1709 | 10017 | 0.999995 | 0,1 | 1.00000 | 0,0 |
| .31 | 101.1726 | 10118 | 101.1776 | 10117 | .999995 | 0,1 | .00000 | |
| .32 | 102.1895 | 10219 | 102.1944 | 10219 | .999995 | 0,1 | .00000 | |
| .33 | 103.2166 | 10322 | 103.2214 | 10322 | .999995 | 0,1 | .00000 | |
| .34 | 104.2540 | 10426 | 104.2588 | 10425 | .999995 | 0,1 | .00000 | |
| 5.35 | 105.3018 | 10531 | 105.3065 | 10530 | 0.999995 | 0,1 | 1.00000 | 0,0 |
| .36 | 106.3601 | 10636 | 106.3648 | 10636 | .999996 | 0,1 | .00000 | |
| .37 | 107.4291 | 10743 | 107.4338 | 10743 | .999996 | 0,1 | .00000 | |
| .38 | 108.5088 | 10851 | 108.5134 | 10851 | .999996 | 0,1 | .00000 | |
| .39 | 109.5994 | 10960 | 109.6040 | 10960 | .999996 | 0,1 | .00000 | |
| 5.40 | 110.7009 | 11071 | 110.7055 | 11070 | 0.999996 | 0,1 | 1.00000 | 0,0 |
| .41 | 111.8136 | 11182 | 111.8180 | 11181 | .999996 | 0,1 | .00000 | |
| .42 | 112.9375 | 11294 | 112.9418 | 11294 | .999996 | 0,1 | .00000 | |
| .43 | 114.0724 | 11408 | 114.0768 | 11407 | .999996 | 0,1 | .00000 | |
| .44 | 115.2189 | 11522 | 115.2233 | 11522 | .999996 | 0,1 | .00000 | |
| 5.45 | 116.3769 | 11638 | 116.3812 | 11638 | 0.999996 | 0,1 | 1.00000 | 0,0 |
| .46 | 117.5466 | 11755 | 117.5508 | 11755 | .999996 | 0,1 | .00000 | |
| .47 | 118.7280 | 11873 | 118.7322 | 11873 | .999996 | 0,1 | .00000 | |
| .48 | 119.9213 | 11993 | 119.9254 | 11992 | .999997 | 0,1 | .00000 | |
| .49 | 121.1265 | 12113 | 121.1307 | 12113 | .999997 | 0,1 | .00000 | |
| 5.50 | 122.3439 | 12235 | 122.3480 | 12234 | 0.999997 | 0,1 | 1.00000 | 0,0 |
| u | tan gd u | $\omega F_0'$ | sec gd u | $\omega F_0'$ | sin gd u | $\omega F_0'$ | csc gd u | $\omega F_0'$ |

Natural Hyperbolic Functions.

| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\tanh u$ | $\omega F_0'$ | $\coth u$ | $\omega F_0'$ |
|------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|
| 5.50 | 122.3439 | 12235 | 122.3480 | 12234 | 0.99997 | 0,1 | 1.0000 | 0,0 |
| .51 | 123.5735 | 12358 | 123.5776 | 12357 | .99997 | 0,1 | .0000 | |
| .52 | 124.8155 | 12482 | 124.8195 | 12482 | .99997 | 0,1 | .0000 | |
| .53 | 126.0700 | 12607 | 126.0739 | 12607 | .99997 | 0,1 | .0000 | |
| .54 | 127.3370 | 12734 | 127.3410 | 12734 | .99997 | 0,1 | .0000 | |
| 5.55 | 128.6168 | 12862 | 128.6207 | 12862 | 0.99997 | 0,1 | 1.0000 | 0,0 |
| .56 | 129.9095 | 12991 | 129.9133 | 12991 | .99997 | 0,1 | .0000 | |
| .57 | 131.2151 | 13122 | 131.2190 | 13122 | .99997 | 0,1 | .0000 | |
| .58 | 132.5339 | 13254 | 132.5377 | 13253 | .99997 | 0,1 | .0000 | |
| .59 | 133.8659 | 13387 | 133.8697 | 13387 | .99997 | 0,1 | .0000 | |
| 5.60 | 135.2114 | 13522 | 135.2150 | 13521 | 0.99997 | 0,1 | 1.0000 | 0,0 |
| .61 | 136.5703 | 13657 | 136.5739 | 13657 | .99997 | 0,1 | .0000 | |
| .62 | 137.9429 | 13795 | 137.9465 | 13794 | .99997 | 0,1 | .0000 | |
| .63 | 139.3293 | 13933 | 139.3329 | 13933 | .99997 | 0,1 | .0000 | |
| .64 | 140.7295 | 14073 | 140.7331 | 14073 | .99997 | 0,1 | .0000 | |
| 5.65 | 142.1440 | 14215 | 142.1475 | 14214 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .66 | 143.5726 | 14358 | 143.5761 | 14357 | .99998 | 0,0 | .0000 | |
| .67 | 145.0155 | 14502 | 145.0190 | 14502 | .99998 | 0,0 | .0000 | |
| .68 | 146.4730 | 14648 | 146.4764 | 14647 | .99998 | 0,0 | .0000 | |
| .69 | 147.9451 | 14795 | 147.9485 | 14795 | .99998 | 0,0 | .0000 | |
| 5.70 | 149.4320 | 14944 | 149.4354 | 14943 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .71 | 150.9339 | 15094 | 150.9372 | 15093 | .99998 | 0,0 | .0000 | |
| .72 | 152.4508 | 15245 | 152.4541 | 15245 | .99998 | 0,0 | .0000 | |
| .73 | 153.9830 | 15399 | 153.9863 | 15398 | .99998 | 0,0 | .0000 | |
| .74 | 155.5306 | 15553 | 155.5338 | 15553 | .99998 | 0,0 | .0000 | |
| 5.75 | 157.0938 | 15710 | 157.0969 | 15709 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .76 | 158.6726 | 15868 | 158.6757 | 15867 | .99998 | 0,0 | .0000 | |
| .77 | 160.2673 | 16027 | 160.2704 | 16027 | .99998 | 0,0 | .0000 | |
| .78 | 161.8781 | 16188 | 161.8811 | 16188 | .99998 | 0,0 | .0000 | |
| .79 | 163.5050 | 16351 | 163.5080 | 16350 | .99998 | 0,0 | .0000 | |
| 5.80 | 165.1483 | 16515 | 165.1513 | 16515 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .81 | 166.8081 | 16681 | 166.8111 | 16681 | .99998 | 0,0 | .0000 | |
| .82 | 168.4845 | 16849 | 168.4875 | 16848 | .99998 | 0,0 | .0000 | |
| .83 | 170.1779 | 17018 | 170.1808 | 17018 | .99998 | 0,0 | .0000 | |
| .84 | 171.8882 | 17189 | 171.8911 | 17189 | .99998 | 0,0 | .0000 | |
| 5.85 | 173.6158 | 17362 | 173.6186 | 17362 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .86 | 175.3606 | 17536 | 175.3635 | 17536 | .99998 | 0,0 | .0000 | |
| .87 | 177.1231 | 17713 | 177.1259 | 17712 | .99998 | 0,0 | .0000 | |
| .88 | 178.9032 | 17891 | 178.9060 | 17890 | .99998 | 0,0 | .0000 | |
| .89 | 180.7013 | 18070 | 180.7040 | 18070 | .99998 | 0,0 | .0000 | |
| 5.90 | 182.5174 | 18252 | 182.5201 | 18252 | 0.99998 | 0,0 | 1.0000 | 0,0 |
| .91 | 184.3517 | 18435 | 184.3544 | 18435 | .99999 | 0,0 | .0000 | |
| .92 | 186.2045 | 18621 | 186.2072 | 18620 | .99999 | 0,0 | .0000 | |
| .93 | 188.0759 | 18808 | 188.0786 | 18808 | .99999 | 0,0 | .0000 | |
| .94 | 189.9661 | 18997 | 189.9688 | 18997 | .99999 | 0,0 | .0000 | |
| 5.95 | 191.8754 | 19188 | 191.8780 | 19188 | 0.99999 | 0,0 | 1.0000 | 0,0 |
| .96 | 193.8038 | 19381 | 193.8064 | 19380 | .99999 | 0,0 | .0000 | |
| .97 | 195.7516 | 19575 | 195.7541 | 19575 | .99999 | 0,0 | .0000 | |
| .98 | 197.7189 | 19772 | 197.7214 | 19772 | .99999 | 0,0 | .0000 | |
| .99 | 199.7061 | 19971 | 199.7086 | 19971 | .99999 | 0,0 | .0000 | |
| 6.00 | 201.7132 | 20172 | 201.7156 | 20171 | 0.99999 | 0,0 | 1.0000 | 0,0 |
| u | $\tan gd u$ | $\omega F_0'$ | $\sec gd u$ | $\omega F_0'$ | $\sin gd u$ | $\omega F_0'$ | $\csc gd u$ | $\omega F_0'$ |

TABLE III

NATURAL AND LOGARITHMIC CIRCULAR FUNCTIONS

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|--------------|
| 0.0000 | 0.00000 | 10,0 | 1.00000 | 0,0 | — ∞ | + ∞ | 0.00000 | 0,0 | 0° 00' 00.00 |
| .0001 | .00010 | | .00000 | | 6.00000 | 43429,4 | .00000 | | 0 00 20.63 |
| .0002 | .00020 | | .00000 | | .30103 | 21714,7 | .00000 | | 0 00 41.25 |
| .0003 | .00030 | | .00000 | | .47712 | 14476,5 | .00000 | | 0 01 01.88 |
| .0004 | .00040 | | .00000 | | .60206 | 10857,4 | .00000 | | 0 01 22.51 |
| 0.0005 | 0.00050 | 10,0 | 1.00000 | 0,0 | 6.69897 | 8685,9 | 0.00000 | 0,0 | 0 01 43.13 |
| .0006 | .00060 | | .00000 | | .77815 | 7238,2 | .00000 | | 0 02 03.76 |
| .0007 | .00070 | | .00000 | | .84510 | 6204,2 | .00000 | | 0 02 24.39 |
| .0008 | .00080 | | .00000 | | .90309 | 5428,7 | .00000 | | 0 02 45.01 |
| .0009 | .00090 | | .00000 | | .95424 | 4825,5 | .00000 | | 0 03 05.64 |
| 0.0010 | 0.00100 | 10,0 | 1.00000 | 0,0 | 7.00000 | 4342,9 | 0.00000 | 0,0 | 0 03 26.26 |
| .0011 | .00110 | | .00000 | | .04139 | 3948,1 | .00000 | | 0 03 46.89 |
| .0012 | .00120 | | .00000 | | .07918 | 3619,1 | .00000 | | 0 04 07.52 |
| .0013 | .00130 | | .00000 | | .11394 | 3340,7 | .00000 | | 0 04 28.14 |
| .0014 | .00140 | | .00000 | | .14613 | 3102,1 | .00000 | | 0 04 48.77 |
| 0.0015 | 0.00150 | 10,0 | 1.00000 | 0,0 | 7.17609 | 2895,3 | 0.00000 | 0,0 | 0 05 09.40 |
| .0016 | .00160 | | .00000 | | .20412 | 2714,3 | .00000 | | 0 05 30.02 |
| .0017 | .00170 | | .00000 | | .23045 | 2554,7 | .00000 | | 0 05 50.65 |
| .0018 | .00180 | | .00000 | | .25527 | 2412,7 | .00000 | | 0 06 11.28 |
| .0019 | .00190 | | .00000 | | .27875 | 2285,8 | .00000 | | 0 06 31.90 |
| 0.0020 | 0.00200 | 10,0 | 1.00000 | 0,0 | 7.30103 | 2171,5 | 0.00000 | 0,0 | 0 06 52.53 |
| .0021 | .00210 | | .00000 | | .32222 | 2068,1 | .00000 | | 0 07 13.16 |
| .0022 | .00220 | | .00000 | | .34242 | 1974,1 | .00000 | | 0 07 33.78 |
| .0023 | .00230 | | .00000 | | .36173 | 1888,2 | .00000 | | 0 07 54.41 |
| .0024 | .00240 | | .00000 | | .38021 | 1809,6 | .00000 | | 0 08 15.04 |
| 0.0025 | 0.00250 | 10,0 | 1.00000 | 0,0 | 7.39794 | 1737,2 | 0.00000 | 0,0 | 0 08 35.66 |
| .0026 | .00260 | | .00000 | | .41497 | 1670,4 | .00000 | | 0 08 56.29 |
| .0027 | .00270 | | .00000 | | .43136 | 1608,5 | .00000 | | 0 09 16.91 |
| .0028 | .00280 | | .00000 | | .44716 | 1551,0 | .00000 | | 0 09 37.54 |
| .0029 | .00290 | | .00000 | | .46240 | 1497,6 | .00000 | | 0 09 58.17 |
| 0.0030 | 0.00300 | 10,0 | 1.00000 | 0,0 | 7.47712 | 1447,6 | 0.00000 | 0,0 | 0 10 18.79 |
| .0031 | .00310 | | .00000 | | .49136 | 1400,9 | .00000 | | 0 10 39.42 |
| .0032 | .00320 | | 0.99999 | | .50515 | 1357,2 | .00000 | | 0 11 00.05 |
| .0033 | .00330 | | .99999 | | .51851 | 1316,0 | .00000 | | 0 11 20.67 |
| .0034 | .00340 | | .99999 | | .53148 | 1277,3 | .00000 | | 0 11 41.30 |
| 0.0035 | 0.00350 | 10,0 | 0.99999 | 0,0 | 7.54407 | 1240,8 | 0.00000 | 0,0 | 0 12 01.93 |
| .0036 | .00360 | | .99999 | | .55630 | 1205,4 | .00000 | | 0 12 22.55 |
| .0037 | .00370 | | .99999 | | .56820 | 1173,8 | .00000 | | 0 12 43.18 |
| .0038 | .00380 | | .99999 | | .57978 | 1142,9 | .00000 | | 0 13 03.81 |
| .0039 | .00390 | | .99999 | | .59106 | 1113,6 | .00000 | | 0 13 24.43 |
| 0.0040 | 0.00400 | 10,0 | 0.99999 | 0,0 | 7.60206 | 1085,7 | 0.00000 | 0,0 | 0 13 45.06 |
| .0041 | .00410 | | .99999 | | .61278 | 1059,2 | .00000 | | 0 14 05.69 |
| .0042 | .00420 | | .99999 | | .62325 | 1034,0 | .00000 | | 0 14 26.31 |
| .0043 | .00430 | | .99999 | | .63347 | 1010,0 | .00000 | | 0 14 46.94 |
| .0044 | .00440 | | .99999 | | .64345 | 987,0 | .00000 | | 0 15 07.57 |
| 0.0045 | 0.00450 | 10,0 | 0.99999 | 0,0 | 7.65321 | 965,1 | 0.00000 | 0,0 | 0 15 28.19 |
| .0046 | .00460 | | .99999 | | .66276 | 944,1 | .00000 | | 0 15 48.82 |
| .0047 | .00470 | | .99999 | | .67210 | 924,0 | .00000 | | 0 16 09.44 |
| .0048 | .00480 | | .99999 | | .68124 | 904,8 | .00000 | | 0 16 30.07 |
| .0049 | .00490 | | .99999 | | .69019 | 886,3 | 9.99999 | | 0 16 50.70 |
| 0.0050 | 0.00500 | 10,0 | 0.99999 | 0,0 | 7.69897 | 868,6 | 9.99999 | 0,0 | 0 17 11.32 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.0050 | 0.00500 | 10,0 | 0.99999 | 0,0 | 7.69897 | 868,6 | 9.99999 | 0,0 | 0° 17' 11.32" |
| .0051 | .00510 | | .99999 | 0,1 | .70757 | 851,6 | .99999 | | 0 17 31.95 |
| .0052 | .00520 | | .99999 | | .71600 | 835,2 | .99999 | | 0 17 52.58 |
| .0053 | .00530 | | .99999 | | .72427 | 819,4 | .99999 | | 0 18 13.20 |
| .0054 | .00540 | | .99999 | | .73239 | 804,2 | .99999 | | 0 18 33.83 |
| 0.0055 | 0.00550 | 10,0 | 0.99998 | 0,1 | 7.74036 | 789,6 | 9.99999 | 0,0 | 0 18 54.46 |
| .0056 | .00560 | | .99998 | | .74819 | 775,5 | .99999 | | 0 19 15.08 |
| .0057 | .00570 | | .99998 | | .75587 | 761,9 | .99999 | | 0 19 35.71 |
| .0058 | .00580 | | .99998 | | .76343 | 748,8 | .99999 | | 0 19 56.34 |
| .0059 | .00590 | | .99998 | | .77085 | 736,1 | .99999 | | 0 20 16.96 |
| 0.0060 | 0.00600 | 10,0 | 0.99998 | 0,1 | 7.77815 | 723,8 | 9.99999 | 0,0 | 0 20 37.59 |
| .0061 | .00610 | | .99998 | | .78533 | 711,9 | .99999 | | 0 20 58.22 |
| .0062 | .00620 | | .99998 | | .79239 | 700,5 | .99999 | | 0 21 18.84 |
| .0063 | .00630 | | .99998 | | .79934 | 689,3 | .99999 | | 0 21 39.47 |
| .0064 | .00640 | | .99998 | | .80618 | 678,6 | .99999 | | 0 22 00.09 |
| 0.0065 | 0.00650 | 10,0 | 0.99998 | 0,1 | 7.81291 | 668,1 | 9.99999 | 0,0 | 0 22 20.72 |
| .0066 | .00660 | | .99998 | | .81954 | 658,0 | .99999 | | 0 22 41.35 |
| .0067 | .00670 | | .99998 | | .82607 | 648,2 | .99999 | | 0 23 01.97 |
| .0068 | .00680 | | .99998 | | .83251 | 638,7 | .99999 | | 0 23 22.60 |
| .0069 | .00690 | | .99998 | | .83885 | 629,4 | .99999 | | 0 23 43.23 |
| 0.0070 | 0.00700 | 10,0 | 0.99998 | 0,1 | 7.84509 | 620,4 | 9.99999 | 0,0 | 0 24 03.85 |
| .0071 | .00710 | | .99997 | | .85125 | 611,7 | .99999 | | 0 24 24.48 |
| .0072 | .00720 | | .99997 | | .85733 | 603,2 | .99999 | | 0 24 45.11 |
| .0073 | .00730 | | .99997 | | .86332 | 594,9 | .99999 | | 0 25 05.73 |
| .0074 | .00740 | | .99997 | | .86923 | 586,9 | .99999 | | 0 25 26.36 |
| 0.0075 | 0.00750 | 10,0 | 0.99997 | 0,1 | 7.87506 | 579,0 | 9.99999 | 0,0 | 0 25 46.99 |
| .0076 | .00760 | | .99997 | | .88081 | 571,4 | .99999 | | 0 26 07.61 |
| .0077 | .00770 | | .99997 | | .88649 | 564,0 | .99999 | | 0 26 28.24 |
| .0078 | .00780 | | .99997 | | .89209 | 556,8 | .99999 | | 0 26 48.87 |
| .0079 | .00790 | | .99997 | | .89762 | 549,7 | .99999 | | 0 27 09.49 |
| 0.0080 | 0.00800 | 10,0 | 0.99997 | 0,1 | 7.90309 | 542,9 | 9.99999 | 0,0 | 0 27 30.12 |
| .0081 | .00810 | | .99997 | | .90848 | 536,2 | .99999 | | 0 27 50.74 |
| .0082 | .00820 | | .99997 | | .91381 | 529,6 | .99999 | | 0 28 11.37 |
| .0083 | .00830 | | .99997 | | .91907 | 523,2 | .99999 | | 0 28 32.00 |
| .0084 | .00840 | | .99996 | | .92427 | 517,0 | .99998 | | 0 28 52.62 |
| 0.0085 | 0.00850 | 10,0 | 0.99996 | 0,1 | 7.92941 | 510,9 | 9.99998 | 0,0 | 0 29 13.25 |
| .0086 | .00860 | | .99996 | | .93449 | 505,0 | .99998 | | 0 29 33.88 |
| .0087 | .00870 | | .99996 | | .93951 | 499,1 | .99998 | | 0 29 54.50 |
| .0088 | .00880 | | .99996 | | .94448 | 493,5 | .99998 | | 0 30 15.13 |
| .0089 | .00890 | | .99996 | | .94938 | 488,0 | .99998 | | 0 30 35.76 |
| 0.0090 | 0.00900 | 10,0 | 0.99996 | 0,1 | 7.95424 | 482,5 | 9.99998 | 0,0 | 0 30 56.38 |
| .0091 | .00910 | | .99996 | | .95904 | 477,2 | .99998 | | 0 31 17.01 |
| .0092 | .00920 | | .99996 | | .96378 | 472,0 | .99998 | | 0 31 37.64 |
| .0093 | .00930 | | .99996 | | .96848 | 467,0 | .99998 | | 0 31 58.26 |
| .0094 | .00940 | | .99996 | | .97312 | 462,0 | .99998 | | 0 32 18.89 |
| 0.0095 | 0.00950 | 10,0 | 0.99995 | 0,1 | 7.97772 | 457,1 | 9.99998 | 0,0 | 0 32 39.52 |
| .0096 | .00960 | | .99995 | | .98226 | 452,4 | .99998 | | 0 33 00.14 |
| .0097 | .00970 | | .99995 | | .98676 | 447,7 | .99998 | | 0 33 20.77 |
| .0098 | .00980 | | .99995 | | .99122 | 443,1 | .99998 | | 0 33 41.40 |
| .0099 | .00990 | | .99995 | | .99563 | 438,7 | .99998 | | 0 34 02.02 |
| 0.0100 | 0.01000 | 10,0 | 0.99995 | 0,1 | 7.99999 | 434,3 | 9.99998 | 0,0 | 0 34 22.65 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|--------------|
| 0.0100 | 0.01000 | 10,0 | 0.99995 | 0,1 | 7.99999 | 434,3 | 9.99998 | 0,0 | 0° 34' 22.65 |
| .0101 | .01010 | | .99995 | | 8.00431 | 430,0 | .99998 | | 0 34 43.27 |
| .0102 | .01020 | | .99995 | | .00859 | 425,8 | .99998 | | 0 35 03.90 |
| .0103 | .01030 | | .99995 | | .01283 | 421,6 | .99998 | | 0 35 24.53 |
| .0104 | .01040 | | .99995 | | .01703 | 417,6 | .99998 | | 0 35 45.15 |
| 0.0105 | 0.01050 | 10,0 | 0.99994 | 0,1 | 8.02118 | 413,6 | 9.99998 | 0,0 | 0 36 05.78 |
| .0106 | .01060 | | .99994 | | .02530 | 409,7 | .99998 | | 0 36 26.41 |
| .0107 | .01070 | | .99994 | | .02938 | 405,9 | .99998 | | 0 36 47.03 |
| .0108 | .01080 | | .99994 | | .03342 | 402,1 | .99997 | | 0 37 07.66 |
| .0109 | .01090 | | .99994 | | .03742 | 398,4 | .99997 | | 0 37 28.29 |
| 0.0110 | 0.01100 | 10,0 | 0.99994 | 0,1 | 8.04138 | 394,8 | 9.99997 | 0,0 | 0 37 48.91 |
| .0111 | .01110 | | .99994 | | .04531 | 391,2 | .99997 | | 0 38 09.54 |
| .0112 | .01120 | | .99994 | | .04921 | 387,7 | .99997 | | 0 38 30.17 |
| .0113 | .01130 | | .99994 | | .05307 | 384,3 | .99997 | | 0 38 50.79 |
| .0114 | .01140 | | .99994 | | .05690 | 380,9 | .99997 | | 0 39 11.42 |
| 0.0115 | 0.01150 | 10,0 | 0.99993 | 0,1 | 8.06069 | 377,6 | 9.99997 | 0,0 | 0 39 32.05 |
| .0116 | .01160 | | .99993 | | .06445 | 374,4 | .99997 | 0,1 | 0 39 52.67 |
| .0117 | .01170 | | .99993 | | .06818 | 371,2 | .99997 | | 0 40 13.30 |
| .0118 | .01180 | | .99993 | | .07187 | 368,0 | .99997 | | 0 40 33.92 |
| .0119 | .01190 | | .99993 | | .07554 | 364,9 | .99997 | | 0 40 54.55 |
| 0.0120 | 0.01200 | 10,0 | 0.99993 | 0,1 | 8.07917 | 361,9 | 9.99997 | 0,1 | 0 41 15.18 |
| .0121 | .01210 | | .99993 | | .08277 | 358,9 | .99997 | | 0 41 35.80 |
| .0122 | .01220 | | .99993 | | .08635 | 356,0 | .99997 | | 0 41 56.43 |
| .0123 | .01230 | | .99992 | | .08989 | 353,1 | .99997 | | 0 42 17.05 |
| .0124 | .01240 | | .99992 | | .09341 | 350,2 | .99997 | | 0 42 37.68 |
| 0.0125 | 0.01250 | 10,0 | 0.99992 | 0,1 | 8.09690 | 347,4 | 9.99997 | 0,1 | 0 42 58.31 |
| .0126 | .01260 | | .99992 | | .10036 | 344,7 | .99997 | | 0 43 18.94 |
| .0127 | .01270 | | .99992 | | .10379 | 342,0 | .99996 | | 0 43 39.56 |
| .0128 | .01280 | | .99992 | | .10720 | 339,3 | .99996 | | 0 44 00.19 |
| .0129 | .01290 | | .99992 | | .11058 | 336,6 | .99996 | | 0 44 20.82 |
| 0.0130 | 0.01300 | 10,0 | 0.99992 | 0,1 | 8.11393 | 334,1 | 9.99996 | 0,1 | 0 44 41.44 |
| .0131 | .01310 | | .99991 | | .11726 | 331,5 | .99996 | | 0 45 02.07 |
| .0132 | .01320 | | .99991 | | .12056 | 329,0 | .99996 | | 0 45 22.70 |
| .0133 | .01330 | | .99991 | | .12384 | 326,5 | .99996 | | 0 45 43.32 |
| .0134 | .01340 | | .99991 | | .12709 | 324,1 | .99996 | | 0 46 03.95 |
| 0.0135 | 0.01350 | 10,0 | 0.99991 | 0,1 | 8.13032 | 321,7 | 9.99996 | 0,1 | 0 46 24.57 |
| .0136 | .01360 | | .99991 | | .13353 | 319,3 | .99996 | | 0 46 45.20 |
| .0137 | .01370 | | .99991 | | .13671 | 317,0 | .99996 | | 0 47 05.83 |
| .0138 | .01380 | | .99990 | | .13987 | 314,7 | .99996 | | 0 47 26.45 |
| .0139 | .01390 | | .99990 | | .14300 | 312,4 | .99996 | | 0 47 47.08 |
| 0.0140 | 0.01400 | 10,0 | 0.99990 | 0,1 | 8.14611 | 310,2 | 9.99996 | 0,1 | 0 48 07.71 |
| .0141 | .01410 | | .99990 | | .14920 | 308,0 | .99996 | | 0 48 28.33 |
| .0142 | .01420 | | .99990 | | .15227 | 305,8 | .99996 | | 0 48 48.96 |
| .0143 | .01430 | | .99990 | | .15532 | 303,7 | .99996 | | 0 49 09.59 |
| .0144 | .01440 | | .99990 | | .15835 | 301,6 | .99995 | | 0 49 30.21 |
| 0.0145 | 0.01450 | 10,0 | 0.99989 | 0,1 | 8.16135 | 299,5 | 9.99995 | 0,1 | 0 49 50.84 |
| .0146 | .01460 | | .99989 | | .16434 | 297,4 | .99995 | | 0 50 11.47 |
| .0147 | .01470 | | .99989 | | .16730 | 295,4 | .99995 | | 0 50 32.09 |
| .0148 | .01480 | | .99989 | | .17025 | 293,4 | .99995 | | 0 50 52.72 |
| .0149 | .01490 | | .99989 | | .17317 | 291,5 | .99995 | | 0 51 13.35 |
| 0.0150 | 0.01500 | 10,0 | 0.99989 | 0,1 | 8.17608 | 289,5 | 9.99995 | 0,1 | 0 51 33.97 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|--------------|
| 0.0150 | 0.01500 | 10,0 | 0.99989 | 0,1 | 8.17608 | 289,5 | 9.99995 | 0,1 | 0° 51' 33.97 |
| .0151 | .01510 | | .99989 | 0,2 | .17896 | 287,6 | .99995 | | 0 51 54.60 |
| .0152 | .01520 | | .99988 | | .18183 | 285,7 | .99995 | | 0 52 15.23 |
| .0153 | .01530 | | .99988 | | .18467 | 283,8 | .99995 | | 0 52 35.85 |
| .0154 | .01540 | | .99988 | | .18750 | 282,0 | .99995 | | 0 52 56.48 |
| 0.0155 | 0.01550 | 10,0 | 0.99988 | 0,2 | 8.19031 | 280,2 | 9.99995 | 0,1 | 0 53 17.10 |
| .0156 | .01560 | | .99988 | | .19311 | 278,4 | .99995 | | 0 53 37.73 |
| .0157 | .01570 | | .99988 | | .19588 | 276,6 | .99995 | | 0 53 58.36 |
| .0158 | .01580 | | .99988 | | .19864 | 274,9 | .99995 | | 0 54 18.98 |
| .0159 | .01590 | | .99987 | | .20138 | 273,1 | .99995 | | 0 54 39.61 |
| 0.0160 | 0.01600 | 10,0 | 0.99987 | 0,2 | 8.20410 | 271,4 | 9.99994 | 0,1 | 0 55 00.24 |
| .0161 | .01610 | | .99987 | | .20681 | 269,7 | .99994 | | 0 55 20.86 |
| .0162 | .01620 | | .99987 | | .20950 | 268,1 | .99994 | | 0 55 41.49 |
| .0163 | .01630 | | .99987 | | .21217 | 266,4 | .99994 | | 0 56 02.12 |
| .0164 | .01640 | | .99987 | | .21482 | 264,8 | .99994 | | 0 56 22.74 |
| 0.0165 | 0.01650 | 10,0 | 0.99986 | 0,2 | 8.21746 | 263,2 | 9.99994 | 0,1 | 0 56 43.37 |
| .0166 | .01660 | | .99986 | | .22009 | 261,6 | .99994 | | 0 57 04.00 |
| .0167 | .01670 | | .99986 | | .22270 | 260,0 | .99994 | | 0 57 24.62 |
| .0168 | .01680 | | .99986 | | .22529 | 258,5 | .99994 | | 0 57 45.25 |
| .0169 | .01690 | | .99986 | | .22787 | 257,0 | .99994 | | 0 58 05.88 |
| 0.0170 | 0.01700 | 10,0 | 0.99986 | 0,2 | 8.23043 | 255,4 | 9.99994 | 0,1 | 0 58 26.50 |
| .0171 | .01710 | | .99985 | | .23298 | 253,9 | .99994 | | 0 58 47.13 |
| .0172 | .01720 | | .99985 | | .23551 | 252,5 | .99994 | | 0 59 07.75 |
| .0173 | .01730 | | .99985 | | .23802 | 251,0 | .99994 | | 0 59 28.38 |
| .0174 | .01740 | | .99985 | | .24053 | 249,6 | .99993 | | 0 59 49.01 |
| 0.0175 | 0.01750 | 10,0 | 0.99985 | 0,2 | 8.24302 | 248,1 | 9.99993 | 0,1 | 1 00 09.63 |
| .0176 | .01760 | | .99985 | | .24549 | 246,7 | .99993 | | 1 00 30.26 |
| .0177 | .01770 | | .99984 | | .24795 | 245,3 | .99993 | | 1 00 50.89 |
| .0178 | .01780 | | .99984 | | .25040 | 244,0 | .99993 | | 1 01 11.51 |
| .0179 | .01790 | | .99984 | | .25283 | 242,6 | .99993 | | 1 01 32.14 |
| 0.0180 | 0.01800 | 10,0 | 0.99984 | 0,2 | 8.25525 | 241,2 | 9.99993 | 0,1 | 1 01 52.77 |
| .0181 | .01810 | | .99984 | | .25766 | 239,9 | .99993 | | 1 02 13.39 |
| .0182 | .01820 | | .99983 | | .26005 | 238,6 | .99993 | | 1 02 34.02 |
| .0183 | .01830 | | .99983 | | .26243 | 237,3 | .99993 | | 1 02 54.65 |
| .0184 | .01840 | | .99983 | | .26479 | 236,0 | .99993 | | 1 03 15.27 |
| 0.0185 | 0.01850 | 10,0 | 0.99983 | 0,2 | 8.26715 | 234,7 | 9.99993 | 0,1 | 1 03 35.90 |
| .0186 | .01860 | | .99983 | | .26949 | 233,5 | .99992 | | 1 03 56.53 |
| .0187 | .01870 | | .99983 | | .27182 | 232,2 | .99992 | | 1 04 17.15 |
| .0188 | .01880 | | .99982 | | .27413 | 231,0 | .99992 | | 1 04 37.78 |
| .0189 | .01890 | | .99982 | | .27644 | 229,8 | .99992 | | 1 04 58.40 |
| 0.0190 | 0.01900 | 10,0 | 0.99982 | 0,2 | 8.27873 | 228,5 | 9.99992 | 0,1 | 1 05 19.03 |
| .0191 | .01910 | | .99982 | | .28101 | 227,4 | .99992 | | 1 05 39.66 |
| .0192 | .01920 | | .99982 | | .28327 | 226,2 | .99992 | | 1 06 00.28 |
| .0193 | .01930 | | .99981 | | .28553 | 225,0 | .99992 | | 1 06 20.91 |
| .0194 | .01940 | | .99981 | | .28777 | 223,8 | .99992 | | 1 06 41.54 |
| 0.0195 | 0.01950 | 10,0 | 0.99981 | 0,2 | 8.29001 | 222,7 | 9.99992 | 0,1 | 1 07 02.16 |
| .0196 | .01960 | | .99981 | | .29223 | 221,6 | .99992 | | 1 07 22.79 |
| .0197 | .01970 | | .99981 | | .29444 | 220,4 | .99992 | | 1 07 43.42 |
| .0198 | .01980 | | .99980 | | .29664 | 219,3 | .99991 | | 1 08 04.04 |
| .0199 | .01990 | | .99980 | | .29882 | 218,2 | .99991 | | 1 08 24.67 |
| 0.0200 | 0.02000 | 10,0 | 0.99980 | 0,2 | 8.30100 | 217,1 | 9.99991 | 0,1 | 1 08 45.30 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|--------------------------|---------------|------------|---------------|--------------|
| 0.0200 | 0.02000 | 10,0 | 0.99980 | 0,2 | 8.30100 | 217,1 | 9.99991 | 0,1 | 1° 08' 45.30 |
| .0201 | .02010 | | .99980 | | .30317 | 216,0 | .99991 | | 1 09 05.02 |
| .0202 | .02020 | | .99980 | | .30532 | 215,0 | .99991 | | 1 09 26.55 |
| .0203 | .02030 | | .99979 | | .30747 | 213,9 | .99991 | | 1 09 47.18 |
| .0204 | .02040 | | .99979 | | .30960 | 212,9 | .99991 | | 1 10 07.80 |
| 0.0205 | 0.02050 | 10,0 | 0.99979 | 0,2 | 8.31172 | 211,8 | 9.99991 | 0,1 | 1 10 28.43 |
| .0206 | .02060 | | .99979 | | .31384 | 210,8 | .99991 | | 1 10 49.06 |
| .0207 | .02070 | | .99979 | | .31594 | 209,8 | .99991 | | 1 11 09.68 |
| .0208 | .02080 | | .99978 | | .31803 | 208,8 | .99991 | | 1 11 30.31 |
| .0209 | .02090 | | .99978 | | .32012 | 207,8 | .99991 | | 1 11 50.93 |
| 0.0210 | 0.02100 | 10,0 | 0.99978 | 0,2 | 8.32219 | 206,8 | 9.99990 | 0,1 | 1 12 11.56 |
| .0211 | .02110 | | .99978 | | .32425 | 205,8 | .99990 | | 1 12 32.19 |
| .0212 | .02120 | | .99978 | | .32630 | 204,8 | .99990 | | 1 12 52.81 |
| .0213 | .02130 | | .99977 | | .32835 | 203,9 | .99990 | | 1 13 13.44 |
| .0214 | .02140 | | .99977 | | .33038 | 202,9 | .99990 | | 1 13 34.07 |
| 0.0215 | 0.02150 | 10,0 | 0.99977 | 0,2 | 8.33241 | 202,0 | 9.99990 | 0,1 | 1 13 54.69 |
| .0216 | .02160 | | .99977 | | .33442 | 201,0 | .99990 | | 1 14 15.32 |
| .0217 | .02170 | | .99976 | | .33643 | 200,1 | .99990 | | 1 14 35.95 |
| .0218 | .02180 | | .99976 | | .33842 | 199,2 | .99990 | | 1 14 56.57 |
| .0219 | .02190 | | .99976 | | .34041 | 198,3 | .99990 | | 1 15 17.20 |
| 0.0220 | 0.02200 | 10,0 | 0.99976 | 0,2 | 8.34239 | 197,4 | 9.99989 | 0,1 | 1 15 37.83 |
| .0221 | .02210 | | .99976 | | .34436 | 196,5 | .99989 | | 1 15 58.45 |
| .0222 | .02220 | | .99975 | | .34632 | 195,6 | .99989 | | 1 16 19.08 |
| .0223 | .02230 | | .99975 | | .34827 | 194,7 | .99989 | | 1 16 39.71 |
| .0224 | .02240 | | .99975 | | .35021 | 193,8 | .99989 | | 1 17 00.33 |
| 0.0225 | 0.02250 | 10,0 | 0.99975 | 0,2 | 8.35215 | 193,0 | 9.99989 | 0,1 | 1 17 20.96 |
| .0226 | .02260 | | .99974 | | .35407 | 192,1 | .99989 | | 1 17 41.58 |
| .0227 | .02270 | | .99974 | | .35599 | 191,3 | .99989 | | 1 18 02.21 |
| .0228 | .02280 | | .99974 | | .35790 | 190,4 | .99989 | | 1 18 22.84 |
| .0229 | .02290 | | .99974 | | .35980 | 189,6 | .99989 | | 1 18 43.46 |
| 0.0230 | 0.02300 | 10,0 | 0.99974 | 0,2 | 8.36169 | 188,8 | 9.99989 | 0,1 | 1 19 04.09 |
| .0231 | .02310 | | .99973 | | .36357 | 188,0 | .99988 | | 1 19 24.72 |
| .0232 | .02320 | | .99973 | | .36545 | 187,2 | .99988 | | 1 19 45.34 |
| .0233 | .02330 | | .99973 | | .36732 | 186,4 | .99988 | | 1 20 05.97 |
| .0234 | .02340 | | .99973 | | .36918 | 185,6 | .99988 | | 1 20 26.60 |
| 0.0235 | 0.02350 | 10,0 | 0.99972 | 0,2 | 8.37103 | 184,8 | 9.99988 | 0,1 | 1 20 47.22 |
| .0236 | .02360 | | .99972 | | .37287 | 184,0 | .99988 | | 1 21 07.85 |
| .0237 | .02370 | | .99972 | | .37471 | 183,2 | .99988 | | 1 21 28.48 |
| .0238 | .02380 | | .99972 | | .37654 | 182,4 | .99988 | | 1 21 49.10 |
| .0239 | .02390 | | .99971 | | .37836 | 181,7 | .99988 | | 1 22 09.73 |
| 0.0240 | 0.02400 | 10,0 | 0.99971 | 0,2 | 8.38017 | 180,9 | 9.99987 | 0,1 | 1 22 30.36 |
| .0241 | .02410 | | .99971 | | .38198 | 180,2 | .99987 | | 1 22 50.98 |
| .0242 | .02420 | | .99971 | | .38377 | 179,4 | .99987 | | 1 23 11.61 |
| .0243 | .02430 | | .99970 | | .38556 | 178,7 | .99987 | | 1 23 32.23 |
| .0244 | .02440 | | .99970 | | .38735 | 178,0 | .99987 | | 1 23 52.86 |
| 0.0245 | 0.02450 | 10,0 | 0.99970 | 0,2 | 8.38912 | 177,2 | 9.99987 | 0,1 | 1 24 13.49 |
| .0246 | .02460 | | .99970 | | .39089 | 176,5 | .99987 | | 1 24 34.11 |
| .0247 | .02470 | | .99969 | | .39265 | 175,8 | .99987 | | 1 24 54.74 |
| .0248 | .02480 | | .99969 | | .39441 | 175,1 | .99987 | | 1 25 15.37 |
| .0249 | .02490 | | .99969 | | .39615 | 174,4 | .99987 | | 1 25 35.99 |
| 0.0250 | 0.02500 | 10,0 | 0.99969 | 0,2 | 8.39789 | 173,7 | 9.99986 | 0,1 | 1 25 56.02 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|------------|
| 0.0250 | 0.02500 | 10,0 | 0.99969 | 0,2 | 8.39789 | 173,7 | 9.99986 | 0,1 | I 25 56.62 |
| .0251 | .02510 | | .99969 | 0,3 | .39963 | 173,0 | .99986 | | I 26 17.25 |
| .0252 | .02520 | | .99968 | | .40135 | 172,3 | .99986 | | I 26 37.87 |
| .0253 | .02530 | | .99968 | | .40307 | 171,6 | .99986 | | I 26 58.50 |
| .0254 | .02540 | | .99968 | | .40479 | 170,9 | .99986 | | I 27 19.13 |
| 0.0255 | 0.02550 | 10,0 | 0.99967 | 0,3 | 8.40649 | 170,3 | 9.99986 | 0,1 | I 27 39.75 |
| .0256 | .02560 | | .99967 | | .40819 | 169,6 | .99986 | | I 28 00.38 |
| .0257 | .02570 | | .99967 | | .40989 | 168,9 | .99986 | | I 28 21.01 |
| .0258 | .02580 | | .99967 | | .41157 | 168,3 | .99986 | | I 28 41.63 |
| .0259 | .02590 | | .99966 | | .41325 | 167,6 | .99985 | | I 29 02.26 |
| 0.0260 | 0.02600 | 10,0 | 0.99966 | 0,3 | 8.41492 | 167,0 | 9.99985 | 0,1 | I 29 22.88 |
| .0261 | .02610 | | .99966 | | .41659 | 166,4 | .99985 | | I 29 43.51 |
| .0262 | .02620 | | .99966 | | .41825 | 165,7 | .99985 | | I 30 04.14 |
| .0263 | .02630 | | .99965 | | .41991 | 165,1 | .99985 | | I 30 24.76 |
| .0264 | .02640 | | .99965 | | .42155 | 164,5 | .99985 | | I 30 45.39 |
| 0.0265 | 0.02650 | 10,0 | 0.99965 | 0,3 | 8.42320 | 163,8 | 9.99985 | 0,1 | I 31 06.02 |
| .0266 | .02660 | | .99965 | | .42483 | 163,2 | .99985 | | I 31 26.64 |
| .0267 | .02670 | | .99964 | | .42646 | 162,6 | .99985 | | I 31 47.27 |
| .0268 | .02680 | | .99964 | | .42808 | 162,0 | .99984 | | I 32 07.90 |
| .0269 | .02690 | | .99964 | | .42970 | 161,4 | .99984 | | I 32 28.52 |
| 0.0270 | 0.02700 | 10,0 | 0.99964 | 0,3 | 8.43131 | 160,8 | 9.99984 | 0,1 | I 32 49.15 |
| .0271 | .02710 | | .99963 | | .43292 | 160,2 | .99984 | | I 33 09.78 |
| .0272 | .02720 | | .99963 | | .43452 | 159,6 | .99984 | | I 33 30.40 |
| .0273 | .02730 | | .99963 | | .43611 | 159,0 | .99984 | | I 33 51.03 |
| .0274 | .02740 | | .99962 | | .43770 | 158,5 | .99984 | | I 34 11.66 |
| 0.0275 | 0.02750 | 10,0 | 0.99962 | 0,3 | 8.43928 | 157,9 | 9.99984 | 0,1 | I 34 32.28 |
| .0276 | .02760 | | .99962 | | .44085 | 157,3 | .99983 | | I 34 52.91 |
| .0277 | .02770 | | .99962 | | .44242 | 156,7 | .99983 | | I 35 13.54 |
| .0278 | .02780 | | .99961 | | .44399 | 156,2 | .99983 | | I 35 34.16 |
| .0279 | .02790 | | .99961 | | .44555 | 155,6 | .99983 | | I 35 54.79 |
| 0.0280 | 0.02800 | 10,0 | 0.99961 | 0,3 | 8.44710 | 155,1 | 9.99983 | 0,1 | I 36 15.41 |
| .0281 | .02810 | | .99961 | | .44865 | 154,5 | .99983 | | I 36 36.04 |
| .0282 | .02820 | | .99960 | | .45019 | 154,0 | .99983 | | I 36 56.67 |
| .0283 | .02830 | | .99960 | | .45173 | 153,4 | .99983 | | I 37 17.29 |
| .0284 | .02840 | | .99960 | | .45326 | 152,9 | .99982 | | I 37 37.92 |
| 0.0285 | 0.02850 | 10,0 | 0.99959 | 0,3 | 8.45479 | 152,3 | 9.99982 | 0,1 | I 37 58.55 |
| .0286 | .02860 | | .99959 | | .45631 | 151,8 | .99982 | | I 38 19.17 |
| .0287 | .02870 | | .99959 | | .45782 | 151,3 | .99982 | | I 38 39.80 |
| .0288 | .02880 | | .99959 | | .45933 | 150,8 | .99982 | | I 39 00.43 |
| .0289 | .02890 | | .99958 | | .46084 | 150,2 | .99982 | | I 39 21.05 |
| 0.0290 | 0.02900 | 10,0 | 0.99958 | 0,3 | 8.46234 | 149,7 | 9.99982 | 0,1 | I 39 41.68 |
| .0291 | .02910 | | .99958 | | .46383 | 149,2 | .99982 | | I 40 02.31 |
| .0292 | .02920 | | .99957 | | .46532 | 148,7 | .99981 | | I 40 22.93 |
| .0293 | .02930 | | .99957 | | .46681 | 148,2 | .99981 | | I 40 43.56 |
| .0294 | .02940 | | .99957 | | .46828 | 147,7 | .99981 | | I 41 04.19 |
| 0.0295 | 0.02950 | 10,0 | 0.99956 | 0,3 | 8.46976 | 147,2 | 9.99981 | 0,1 | I 41 24.81 |
| .0296 | .02960 | | .99956 | | .47123 | 146,7 | .99981 | | I 41 45.44 |
| .0297 | .02970 | | .99956 | | .47269 | 146,2 | .99981 | | I 42 06.06 |
| .0298 | .02980 | | .99956 | | .47415 | 145,7 | .99981 | | I 42 26.69 |
| .0299 | .02990 | | .99955 | | .47561 | 145,2 | .99981 | | I 42 47.32 |
| 0.0300 | 0.03000 | 10,0 | 0.99955 | 0,3 | 8.47706 | 144,7 | 9.99980 | 0,1 | I 43 07.94 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|--------------------------|---------------|------------|---------------|------------|
| 0.0300 | 0.03000 | 10,0 | 0.99955 | 0,3 | 8.47706 | 144,7 | 9.99980 | 0,1 | 1 43 07.94 |
| .0301 | .03010 | | .99955 | | .47850 | 144,2 | .99980 | | 1 43 28.57 |
| .0302 | .03020 | | .99954 | | .47994 | 143,8 | .99980 | | 1 43 49.20 |
| .0303 | .03030 | | .99954 | | .48138 | 143,3 | .99980 | | 1 44 09.82 |
| .0304 | .03040 | | .99954 | | .48281 | 142,8 | .99980 | | 1 44 30.45 |
| 0.0305 | 0.03050 | 10,0 | 0.99953 | 0,3 | 8.48423 | 142,3 | 9.99980 | 0,1 | 1 44 51.08 |
| .0306 | .03060 | | .99953 | | .48565 | 141,9 | .99980 | | 1 45 11.70 |
| .0307 | .03070 | | .99953 | | .48707 | 141,4 | .99980 | | 1 45 32.33 |
| .0308 | .03080 | | .99953 | | .48848 | 141,0 | .99979 | | 1 45 52.96 |
| .0309 | .03090 | | .99952 | | .48989 | 140,5 | .99979 | | 1 46 13.58 |
| 0.0310 | 0.03100 | 10,0 | 0.99952 | 0,3 | 8.49129 | 140,1 | 9.99979 | 0,1 | 1 46 34.21 |
| .0311 | .03109 | | .99952 | | .49269 | 139,6 | .99979 | | 1 46 54.84 |
| .0312 | .03119 | | .99951 | | .49408 | 139,2 | .99979 | | 1 47 15.46 |
| .0313 | .03129 | | .99951 | | .49547 | 138,7 | .99979 | | 1 47 36.09 |
| .0314 | .03139 | | .99951 | | .49686 | 138,3 | .99979 | | 1 47 56.71 |
| 0.0315 | 0.03149 | 10,0 | 0.99950 | 0,3 | 8.49824 | 137,8 | 9.99978 | 0,1 | 1 48 17.34 |
| .0316 | .03159 | | .99950 | | .49961 | 137,4 | .99978 | | 1 48 37.97 |
| .0317 | .03169 | | .99950 | | .50099 | 137,0 | .99978 | | 1 48 58.59 |
| .0318 | .03179 | | .99949 | | .50235 | 136,5 | .99978 | | 1 49 19.22 |
| .0319 | .03189 | | .99949 | | .50372 | 136,1 | .99978 | | 1 49 39.85 |
| 0.0320 | 0.03199 | 10,0 | 0.99949 | 0,3 | 8.50508 | 135,7 | 9.99978 | 0,1 | 1 50 00.47 |
| .0321 | .03209 | | .99948 | | .50643 | 135,2 | .99978 | | 1 50 21.10 |
| .0322 | .03219 | | .99948 | | .50778 | 134,8 | .99977 | | 1 50 41.73 |
| .0323 | .03229 | | .99948 | | .50913 | 134,4 | .99977 | | 1 51 02.35 |
| .0324 | .03239 | | .99948 | | .51047 | 134,0 | .99977 | | 1 51 22.98 |
| 0.0325 | 0.03249 | 10,0 | 0.99947 | 0,3 | 8.51181 | 133,6 | 9.99977 | 0,1 | 1 51 43.61 |
| .0326 | .03259 | | .99947 | | .51314 | 133,2 | .99977 | | 1 52 04.23 |
| .0327 | .03269 | | .99947 | | .51447 | 132,8 | .99977 | | 1 52 24.86 |
| .0328 | .03279 | | .99946 | | .51580 | 132,4 | .99977 | | 1 52 45.49 |
| .0329 | .03289 | | .99946 | | .51712 | 132,0 | .99976 | | 1 53 06.11 |
| 0.0330 | 0.03299 | 10,0 | 0.99946 | 0,3 | 8.51844 | 131,6 | 9.99976 | 0,1 | 1 53 26.74 |
| .0331 | .03309 | | .99945 | | .51975 | 131,2 | .99976 | | 1 53 47.37 |
| .0332 | .03319 | | .99945 | | .52106 | 130,8 | .99976 | | 1 54 07.99 |
| .0333 | .03329 | | .99945 | | .52236 | 130,4 | .99976 | | 1 54 28.62 |
| .0334 | .03339 | | .99944 | | .52367 | 130,0 | .99976 | | 1 54 49.24 |
| 0.0335 | 0.03349 | 10,0 | 0.99944 | 0,3 | 8.52406 | 129,6 | 9.99976 | 0,1 | 1 55 09.87 |
| .0336 | .03359 | | .99944 | | .52626 | 129,2 | .99975 | | 1 55 30.50 |
| .0337 | .03369 | | .99943 | | .52755 | 128,8 | .99975 | | 1 55 51.12 |
| .0338 | .03379 | | .99943 | | .52883 | 128,4 | .99975 | | 1 56 11.75 |
| .0339 | .03389 | | .99943 | | .53012 | 128,1 | .99975 | | 1 56 32.38 |
| 0.0340 | 0.03399 | 10,0 | 0.99942 | 0,3 | 8.53140 | 127,7 | 9.99975 | 0,1 | 1 56 53.00 |
| .0341 | .03409 | | .99942 | | .53267 | 127,3 | .99975 | | 1 57 13.63 |
| .0342 | .03419 | | .99942 | | .53394 | 126,9 | .99975 | | 1 57 34.26 |
| .0343 | .03429 | | .99941 | | .53521 | 126,6 | .99974 | | 1 57 54.88 |
| .0344 | .03439 | | .99941 | | .53647 | 126,2 | .99974 | | 1 58 15.51 |
| 0.0345 | 0.03449 | 10,0 | 0.99940 | 0,3 | 8.53773 | 125,8 | 9.99974 | 0,1 | 1 58 36.14 |
| .0346 | .03459 | | .99940 | | .53899 | 125,5 | .99974 | 0,2 | 1 58 56.76 |
| .0347 | .03469 | | .99940 | | .54024 | 125,1 | .99974 | | 1 59 17.39 |
| .0348 | .03479 | | .99939 | | .54149 | 124,7 | .99974 | | 1 59 38.02 |
| .0349 | .03489 | | .99939 | | .54274 | 124,4 | .99974 | | 1 59 58.64 |
| 0.0350 | 0.03499 | 10,0 | 0.99939 | 0,3 | 8.54398 | 124,0 | 9.99973 | 0,2 | 2 00 19.27 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|--------------------------|---------------|----------------|---------------|------------|
| 0.0350 | 0.03499 | 10,0 | 0.99939 | 0,3 | 8.54398 | 124,0 | 9.99973 | 0,2 | 2 00 19.27 |
| .0351 | .03509 | | .99938 | 0,4 | .54522 | 123,7 | .99973 | | 2 00 39.89 |
| .0352 | .03519 | | .99938 | | .54645 | 123,3 | .99973 | | 2 01 00.52 |
| .0353 | .03529 | | .99938 | | .54768 | 123,0 | .99973 | | 2 01 21.15 |
| .0354 | .03539 | | .99937 | | .54891 | 122,6 | .99973 | | 2 01 41.77 |
| 0.0355 | 0.03549 | 10,0 | 0.99937 | 0,4 | 8.55014 | 122,3 | 9.99973 | 0,2 | 2 02 02.40 |
| .0356 | .03559 | | .99937 | | .55136 | 121,9 | .99972 | | 2 02 23.03 |
| .0357 | .03569 | | .99936 | | .55258 | 121,6 | .99972 | | 2 02 43.65 |
| .0358 | .03579 | | .99936 | | .55379 | 121,3 | .99972 | | 2 03 04.28 |
| .0359 | .03589 | | .99936 | | .55500 | 120,9 | .99972 | | 2 03 24.91 |
| 0.0360 | 0.03599 | 10,0 | 0.99935 | 0,4 | 8.55621 | 120,6 | 9.99972 | 0,2 | 2 03 45.53 |
| .0361 | .03609 | | .99935 | | .55741 | 120,3 | .99972 | | 2 04 06.16 |
| .0362 | .03619 | | .99934 | | .55861 | 119,9 | .99972 | | 2 04 26.79 |
| .0363 | .03629 | | .99934 | | .55981 | 119,6 | .99971 | | 2 04 47.41 |
| .0364 | .03639 | | .99934 | | .56101 | 119,3 | .99971 | | 2 05 08.04 |
| 0.0365 | 0.03649 | 10,0 | 0.99933 | 0,4 | 8.56220 | 118,9 | 9.99971 | 0,2 | 2 05 28.67 |
| .0366 | .03659 | | .99933 | | .56338 | 118,6 | .99971 | | 2 05 49.29 |
| .0367 | .03669 | | .99933 | | .56457 | 118,3 | .99971 | | 2 06 09.92 |
| .0368 | .03679 | | .99932 | | .56575 | 118,0 | .99971 | | 2 06 30.54 |
| .0369 | .03689 | | .99932 | | .56693 | 117,6 | .99970 | | 2 06 51.17 |
| 0.0370 | 0.03699 | 10,0 | 0.99932 | 0,4 | 8.56810 | 117,3 | 9.99970 | 0,2 | 2 07 11.80 |
| .0371 | .03709 | | .99931 | | .56927 | 117,0 | .99970 | | 2 07 32.42 |
| .0372 | .03719 | | .99931 | | .57044 | 116,7 | .99970 | | 2 07 53.05 |
| .0373 | .03729 | | .99930 | | .57161 | 116,4 | .99970 | | 2 08 13.68 |
| .0374 | .03739 | | .99930 | | .57277 | 116,1 | .99970 | | 2 08 34.30 |
| 0.0375 | 0.03749 | 10,0 | 0.99930 | 0,4 | 8.57393 | 115,8 | 9.99969 | 0,2 | 2 08 54.93 |
| .0376 | .03759 | | .99929 | | .57509 | 115,4 | .99969 | | 2 09 15.56 |
| .0377 | .03769 | | .99929 | | .57624 | 115,1 | .99969 | | 2 09 36.18 |
| .0378 | .03779 | | .99929 | | .57739 | 114,8 | .99969 | | 2 09 56.81 |
| .0379 | .03789 | | .99928 | | .57854 | 114,5 | .99969 | | 2 10 17.44 |
| 0.0380 | 0.03799 | 10,0 | 0.99928 | 0,4 | 8.57968 | 114,2 | 9.99969 | 0,2 | 2 10 38.06 |
| .0381 | .03809 | | .99927 | | .58082 | 113,9 | .99968 | | 2 10 58.69 |
| .0382 | .03819 | | .99927 | | .58196 | 113,6 | .99968 | | 2 11 19.32 |
| .0383 | .03829 | | .99927 | | .58309 | 113,3 | .99968 | | 2 11 39.94 |
| .0384 | .03839 | | .99926 | | .58422 | 113,0 | .99968 | | 2 12 00.57 |
| 0.0385 | 0.03849 | 10,0 | 0.99926 | 0,4 | 8.58535 | 112,7 | 9.99968 | 0,2 | 2 12 21.20 |
| .0386 | .03859 | | .99926 | | .58648 | 112,5 | .99968 | | 2 12 41.82 |
| .0387 | .03869 | | .99925 | | .58760 | 112,2 | .99967 | | 2 13 02.45 |
| .0388 | .03879 | | .99925 | | .58872 | 111,9 | .99967 | | 2 13 23.07 |
| .0389 | .03889 | | .99924 | | .58984 | 111,6 | .99967 | | 2 13 43.70 |
| 0.0390 | 0.03899 | 10,0 | 0.99924 | 0,4 | 8.59095 | 111,3 | 9.99967 | 0,2 | 2 14 04.33 |
| .0391 | .03909 | | .99924 | | .59207 | 111,0 | .99967 | | 2 14 24.95 |
| .0392 | .03919 | | .99923 | | .59317 | 110,7 | .99967 | | 2 14 45.58 |
| .0393 | .03929 | | .99923 | | .59428 | 110,5 | .99966 | | 2 15 06.21 |
| .0394 | .03939 | | .99922 | | .59538 | 110,2 | .99966 | | 2 15 26.83 |
| 0.0395 | 0.03949 | 10,0 | 0.99922 | 0,4 | 8.59648 | 109,9 | 9.99966 | 0,2 | 2 15 47.46 |
| .0396 | .03959 | | .99922 | | .59758 | 109,6 | .99966 | | 2 16 08.09 |
| .0397 | .03969 | | .99921 | | .59868 | 109,3 | .99966 | | 2 16 28.71 |
| .0398 | .03979 | | .99921 | | .59977 | 109,1 | .99966 | | 2 16 49.34 |
| .0399 | .03989 | | .99920 | | .60086 | 108,8 | .99965 | | 2 17 09.97 |
| 0.0400 | 0.03999 | 10,0 | 0.99920 | 0,4 | 8.60194 | 108,5 | 9.99965 | 0,2 | 2 17 30.59 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{i}$ | $\omega F_0'$ | $\log \cosh u$ | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|------------|
| 0.0400 | 0.03999 | 10,0 | 0.99920 | 0,4 | 8.60194 | 108,5 | 9.99965 | 0,2 | 2 17 30.59 |
| .0401 | .04009 | | .99920 | | .60303 | 108,2 | .99965 | | 2 17 51.22 |
| .0402 | .04019 | | .99919 | | .60411 | 108,0 | .99965 | | 2 18 11.85 |
| .0403 | .04029 | | .99919 | | .60519 | 107,7 | .99965 | | 2 18 32.47 |
| .0404 | .04039 | | .99918 | | .60626 | 107,4 | .99965 | | 2 18 53.10 |
| 0.0405 | 0.04049 | 10,0 | 0.99918 | 0,4 | 8.60734 | 107,2 | 9.99964 | 0,2 | 2 19 13.72 |
| .0406 | .04059 | | .99918 | | .60841 | 106,9 | .99964 | | 2 19 34.35 |
| .0407 | .04069 | | .99917 | | .60947 | 106,6 | .99964 | | 2 19 54.98 |
| .0408 | .04079 | | .99917 | | .61054 | 106,4 | .99964 | | 2 20 15.60 |
| .0409 | .04089 | | .99916 | | .61160 | 106,1 | .99964 | | 2 20 36.23 |
| 0.0410 | 0.04099 | 10,0 | 0.99916 | 0,4 | 8.61266 | 105,9 | 9.99963 | 0,2 | 2 20 56.86 |
| .0411 | .04109 | | .99916 | | .61372 | 105,6 | .99963 | | 2 21 17.48 |
| .0412 | .04119 | | .99915 | | .61477 | 105,4 | .99963 | | 2 21 38.11 |
| .0413 | .04129 | | .99915 | | .61583 | 105,1 | .99963 | | 2 21 58.74 |
| .0414 | .04139 | | .99914 | | .61688 | 104,8 | .99963 | | 2 22 19.36 |
| 0.0415 | 0.04149 | 10,0 | 0.99914 | 0,4 | 8.61792 | 104,6 | 9.99963 | 0,2 | 2 22 39.99 |
| .0416 | .04159 | | .99913 | | .61897 | 104,3 | .99962 | | 2 23 00.62 |
| .0417 | .04169 | | .99913 | | .62001 | 104,1 | .99962 | | 2 23 21.24 |
| .0418 | .04179 | | .99913 | | .62105 | 103,8 | .99962 | | 2 23 41.87 |
| .0419 | .04189 | | .99912 | | .62209 | 103,6 | .99962 | | 2 24 02.50 |
| 0.0420 | 0.04199 | 10,0 | 0.99912 | 0,4 | 8.62312 | 103,3 | 9.99962 | 0,2 | 2 24 23.12 |
| .0421 | .04209 | | .99911 | | .62415 | 103,1 | .99962 | | 2 24 43.75 |
| .0422 | .04219 | | .99911 | | .62518 | 102,9 | .99961 | | 2 25 04.37 |
| .0423 | .04229 | | .99911 | | .62621 | 102,6 | .99961 | | 2 25 25.00 |
| .0424 | .04239 | | .99910 | | .62724 | 102,4 | .99961 | | 2 25 45.63 |
| 0.0425 | 0.04249 | 10,0 | 0.99910 | 0,4 | 8.62826 | 102,1 | 9.99961 | 0,2 | 2 26 06.25 |
| .0426 | .04259 | | .99909 | | .62928 | 101,9 | .99961 | | 2 26 26.88 |
| .0427 | .04269 | | .99909 | | .63030 | 101,6 | .99960 | | 2 26 47.51 |
| .0428 | .04279 | | .99908 | | .63131 | 101,4 | .99960 | | 2 27 08.13 |
| .0429 | .04289 | | .99908 | | .63232 | 101,2 | .99960 | | 2 27 28.76 |
| 0.0430 | 0.04299 | 10,0 | 0.99908 | 0,4 | 8.63333 | 100,9 | 9.99960 | 0,2 | 2 27 49.39 |
| .0431 | .04309 | | .99907 | | .63434 | 100,7 | .99960 | | 2 28 10.01 |
| .0432 | .04319 | | .99907 | | .63535 | 100,5 | .99959 | | 2 28 30.64 |
| .0433 | .04329 | | .99906 | | .63635 | 100,2 | .99959 | | 2 28 51.27 |
| .0434 | .04339 | | .99906 | | .63735 | 100,0 | .99959 | | 2 29 11.89 |
| 0.0435 | 0.04349 | 10,0 | 0.99905 | 0,4 | 8.63835 | 99,8 | 9.99959 | 0,2 | 2 29 32.52 |
| .0436 | .04359 | | .99905 | | .63935 | 99,5 | .99959 | | 2 29 53.15 |
| .0437 | .04369 | | .99905 | | .64034 | 99,3 | .99959 | | 2 30 13.77 |
| .0438 | .04379 | | .99904 | | .64134 | 99,1 | .99958 | | 2 30 34.40 |
| .0439 | .04389 | | .99904 | | .64233 | 98,9 | .99958 | | 2 30 55.02 |
| 0.0440 | 0.04399 | 10,0 | 0.99903 | 0,4 | 8.64331 | 98,6 | 9.99958 | 0,2 | 2 31 15.65 |
| .0441 | .04409 | | .99903 | | .64430 | 98,4 | .99958 | | 2 31 36.28 |
| .0442 | .04419 | | .99902 | | .64528 | 98,2 | .99958 | | 2 31 56.90 |
| .0443 | .04429 | | .99902 | | .64625 | 98,0 | .99957 | | 2 32 17.53 |
| .0444 | .04439 | | .99901 | | .64724 | 97,7 | .99957 | | 2 32 38.16 |
| 0.0445 | 0.04449 | 10,0 | 0.99901 | 0,4 | 8.64822 | 97,5 | 9.99957 | 0,2 | 2 32 58.78 |
| .0446 | .04459 | | .99901 | | .64919 | 97,3 | .99957 | | 2 33 19.41 |
| .0447 | .04469 | | .99900 | | .65016 | 97,1 | .99957 | | 2 33 40.04 |
| .0448 | .04479 | | .99900 | | .65113 | 96,9 | .99956 | | 2 34 00.66 |
| .0449 | .04488 | | .99899 | | .65210 | 96,7 | .99956 | | 2 34 21.29 |
| 0.0450 | 0.04498 | 10,0 | 0.99899 | 0,4 | 8.65307 | 96,4 | 9.99956 | 0,2 | 2 34 41.92 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.0450 | 0.04498 | 10,0 | 0.99809 | 0,4 | 8.65307 | 96,4 | 9.99956 | 0,2 | 2° 34' 41".92 |
| .0451 | .04508 | | .99808 | 0,5 | .65403 | 96,2 | .99956 | | 2 35 02.54 |
| .0452 | .04518 | | .99808 | | .65499 | 96,0 | .99956 | | 2 35 23.17 |
| .0453 | .04528 | | .99807 | | .65595 | 95,8 | .99955 | | 2 35 43.80 |
| .0454 | .04538 | | .99807 | | .65691 | 95,6 | .99955 | | 2 36 04.42 |
| 0.0455 | 0.04548 | 10,0 | 0.99807 | 0,5 | 8.65786 | 95,4 | 9.99955 | 0,2 | 2 36 25.05 |
| .0456 | .04558 | | .99806 | | .65881 | 95,2 | .99955 | | 2 36 45.68 |
| .0457 | .04568 | | .99806 | | .65976 | 95,0 | .99955 | | 2 37 06.30 |
| .0458 | .04578 | | .99805 | | .66071 | 94,8 | .99954 | | 2 37 26.93 |
| .0459 | .04588 | | .99805 | | .66166 | 94,6 | .99954 | | 2 37 47.55 |
| 0.0460 | 0.04598 | 10,0 | 0.99804 | 0,5 | 8.66260 | 94,3 | 9.99954 | 0,2 | 2 38 08.18 |
| .0461 | .04608 | | .99804 | | .66355 | 94,1 | .99954 | | 2 38 28.81 |
| .0462 | .04618 | | .99803 | | .66449 | 93,9 | .99954 | | 2 38 49.43 |
| .0463 | .04628 | | .99803 | | .66543 | 93,7 | .99953 | | 2 39 10.06 |
| .0464 | .04638 | | .99802 | | .66636 | 93,5 | .99953 | | 2 39 30.69 |
| 0.0465 | 0.04648 | 10,0 | 0.99802 | 0,5 | 8.66730 | 93,3 | 9.99953 | 0,2 | 2 39 51.31 |
| .0466 | .04658 | | .99801 | | .66823 | 93,1 | .99953 | | 2 40 11.94 |
| .0467 | .04668 | | .99801 | | .66916 | 92,9 | .99953 | | 2 40 32.57 |
| .0468 | .04678 | | .99801 | | .67009 | 92,7 | .99952 | | 2 40 53.19 |
| .0469 | .04688 | | .99800 | | .67101 | 92,5 | .99952 | | 2 41 13.82 |
| 0.0470 | 0.04698 | 10,0 | 0.99800 | 0,5 | 8.67194 | 92,3 | 9.99952 | 0,2 | 2 41 34.45 |
| .0471 | .04708 | | .99889 | | .67286 | 92,1 | .99952 | | 2 41 55.07 |
| .0472 | .04718 | | .99889 | | .67378 | 91,9 | .99952 | | 2 42 15.70 |
| .0473 | .04728 | | .99888 | | .67470 | 91,7 | .99951 | | 2 42 36.33 |
| .0474 | .04738 | | .99888 | | .67562 | 91,6 | .99951 | | 2 42 56.95 |
| 0.0475 | 0.04748 | 10,0 | 0.99887 | 0,5 | 8.67653 | 91,4 | 9.99951 | 0,2 | 2 43 17.58 |
| .0476 | .04758 | | .99887 | | .67744 | 91,2 | .99951 | | 2 43 38.20 |
| .0477 | .04768 | | .99886 | | .67835 | 91,0 | .99951 | | 2 43 58.83 |
| .0478 | .04778 | | .99886 | | .67926 | 90,8 | .99950 | | 2 44 19.46 |
| .0479 | .04788 | | .99885 | | .68017 | 90,6 | .99950 | | 2 44 40.08 |
| 0.0480 | 0.04798 | 10,0 | 0.99885 | 0,5 | 8.68107 | 90,4 | 9.99950 | 0,2 | 2 45 00.71 |
| .0481 | .04808 | | .99884 | | .68198 | 90,2 | .99950 | | 2 45 21.34 |
| .0482 | .04818 | | .99884 | | .68288 | 90,0 | .99950 | | 2 45 41.96 |
| .0483 | .04828 | | .99883 | | .68378 | 89,8 | .99949 | | 2 46 02.59 |
| .0484 | .04838 | | .99883 | | .68468 | 89,7 | .99949 | | 2 46 23.22 |
| 0.0485 | 0.04848 | 10,0 | 0.99882 | 0,5 | 8.68557 | 89,5 | 9.99949 | 0,2 | 2 46 43.84 |
| .0486 | .04858 | | .99882 | | .68647 | 89,3 | .99949 | | 2 47 04.47 |
| .0487 | .04868 | | .99881 | | .68736 | 89,1 | .99948 | | 2 47 25.10 |
| .0488 | .04878 | | .99881 | | .68825 | 88,9 | .99948 | | 2 47 45.72 |
| .0489 | .04888 | | .99880 | | .68914 | 88,7 | .99948 | | 2 48 06.35 |
| 0.0490 | 0.04898 | 10,0 | 0.99880 | 0,5 | 8.69002 | 88,6 | 9.99948 | 0,2 | 2 48 26.98 |
| .0491 | .04908 | | .99879 | | .69091 | 88,4 | .99948 | | 2 48 47.60 |
| .0492 | .04918 | | .99879 | | .69179 | 88,2 | .99947 | | 2 49 08.23 |
| .0493 | .04928 | | .99879 | | .69267 | 88,0 | .99947 | | 2 49 28.85 |
| .0494 | .04938 | | .99878 | | .69355 | 87,8 | .99947 | | 2 49 49.48 |
| 0.0495 | 0.04948 | 10,0 | 0.99878 | 0,5 | 8.69443 | 87,7 | 9.99947 | 0,2 | 2 50 10.11 |
| .0496 | .04958 | | .99877 | | .69530 | 87,5 | .99947 | | 2 50 30.73 |
| .0497 | .04968 | | .99877 | | .69618 | 87,3 | .99946 | | 2 50 51.36 |
| .0498 | .04978 | | .99876 | | .69705 | 87,1 | .99946 | | 2 51 11.99 |
| .0499 | .04988 | | .99876 | | .69792 | 87,0 | .99946 | | 2 51 32.61 |
| 0.0500 | 0.04998 | 10,0 | 0.99875 | 0,5 | 8.69879 | 86,8 | 9.99946 | 0,2 | 2 51 53.24 |
| u | -i sinh lu | $\omega F_0'$ | cosh lu | $\omega F_0'$ | log $\frac{\sinh lu}{l}$ | $\omega F_0'$ | log cosh lu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|------------|
| 0.0500 | 0.04998 | 10,0 | 0.99875 | 0,5 | 8.69879 | 86,8 | 9.99946 | 0,2 | 2 51 53.24 |
| .0501 | .05008 | | .99875 | | .69966 | 86,6 | .99945 | | 2 52 13.87 |
| .0502 | .05018 | | .99874 | | .70052 | 86,4 | .99945 | | 2 52 34.49 |
| .0503 | .05028 | | .99874 | | .70138 | 86,3 | .99945 | | 2 52 55.12 |
| .0504 | .05038 | | .99873 | | .70225 | 86,1 | .99945 | | 2 53 15.75 |
| 0.0505 | 0.05048 | 10,0 | 0.99873 | 0,5 | 8.70311 | 85,9 | 9.99945 | 0,2 | 2 53 36.37 |
| .0506 | .05058 | | .99872 | | .70397 | 85,8 | .99944 | | 2 53 57.00 |
| .0507 | .05068 | | .99872 | | .70482 | 85,6 | .99944 | | 2 54 17.63 |
| .0508 | .05078 | | .99871 | | .70568 | 85,4 | .99944 | | 2 54 38.25 |
| .0509 | .05088 | | .99870 | | .70653 | 85,2 | .99944 | | 2 54 58.88 |
| 0.0510 | 0.05098 | 10,0 | 0.99870 | 0,5 | 8.70738 | 85,1 | 9.99943 | 0,2 | 2 55 19.51 |
| .0511 | .05108 | | .99869 | | .70823 | 84,9 | .99943 | | 2 55 40.13 |
| .0512 | .05118 | | .99869 | | .70908 | 84,7 | .99943 | | 2 56 00.76 |
| .0513 | .05128 | | .99868 | | .70993 | 84,6 | .99943 | | 2 56 21.38 |
| .0514 | .05138 | | .99868 | | .71077 | 84,4 | .99943 | | 2 56 42.01 |
| 0.0515 | 0.05148 | 10,0 | 0.99867 | 0,5 | 8.71162 | 84,3 | 9.99942 | 0,2 | 2 57 02.64 |
| .0516 | .05158 | | .99867 | | .71246 | 84,1 | .99942 | | 2 57 23.26 |
| .0517 | .05168 | | .99866 | | .71330 | 83,9 | .99942 | | 2 57 43.89 |
| .0518 | .05178 | | .99866 | | .71414 | 83,8 | .99942 | | 2 58 04.52 |
| .0519 | .05188 | | .99865 | | .71497 | 83,6 | .99941 | | 2 58 25.14 |
| 0.0520 | 0.05198 | 10,0 | 0.99865 | 0,5 | 8.71581 | 83,4 | 9.99941 | 0,2 | 2 58 45.77 |
| .0521 | .05208 | | .99864 | | .71664 | 83,3 | .99941 | | 2 59 06.40 |
| .0522 | .05218 | | .99864 | | .71747 | 83,1 | .99941 | | 2 59 27.02 |
| .0523 | .05228 | | .99863 | | .71830 | 83,0 | .99941 | | 2 59 47.65 |
| .0524 | .05238 | | .99863 | | .71913 | 82,8 | .99940 | | 3 00 08.28 |
| 0.0525 | 0.05248 | 10,0 | 0.99862 | 0,5 | 8.71996 | 82,6 | 9.99940 | 0,2 | 3 00 28.90 |
| .0526 | .05258 | | .99862 | | .72079 | 82,5 | .99940 | | 3 00 49.53 |
| .0527 | .05268 | | .99861 | | .72161 | 82,3 | .99940 | | 3 01 10.16 |
| .0528 | .05278 | | .99861 | | .72243 | 82,2 | .99939 | | 3 01 30.78 |
| .0529 | .05288 | | .99860 | | .72325 | 82,0 | .99939 | | 3 01 51.41 |
| 0.0530 | 0.05298 | 10,0 | 0.99860 | 0,5 | 8.72407 | 81,9 | 9.99939 | 0,2 | 3 02 12.03 |
| .0531 | .05308 | | .99859 | | .72489 | 81,7 | .99939 | | 3 02 32.66 |
| .0532 | .05317 | | .99859 | | .72571 | 81,6 | .99939 | | 3 02 53.29 |
| .0533 | .05327 | | .99858 | | .72652 | 81,4 | .99938 | | 3 03 13.91 |
| .0534 | .05337 | | .99857 | | .72733 | 81,3 | .99938 | | 3 03 34.54 |
| 0.0535 | 0.05347 | 10,0 | 0.99857 | 0,5 | 8.72815 | 81,1 | 9.99938 | 0,2 | 3 03 55.17 |
| .0536 | .05357 | | .99856 | | .72896 | 80,9 | .99938 | | 3 04 15.79 |
| .0537 | .05367 | | .99856 | | .72977 | 80,8 | .99937 | | 3 04 36.42 |
| .0538 | .05377 | | .99855 | | .73057 | 80,6 | .99937 | | 3 04 57.05 |
| .0539 | .05387 | | .99855 | | .73138 | 80,5 | .99937 | | 3 05 17.67 |
| 0.0540 | 0.05397 | 10,0 | 0.99854 | 0,5 | 8.73218 | 80,3 | 9.99937 | 0,2 | 3 05 38.30 |
| .0541 | .05407 | | .99854 | | .73299 | 80,2 | .99936 | | 3 05 58.93 |
| .0542 | .05417 | | .99853 | | .73379 | 80,0 | .99936 | | 3 06 19.55 |
| .0543 | .05427 | | .99853 | | .73459 | 79,9 | .99936 | | 3 06 40.18 |
| .0544 | .05437 | | .99852 | | .73538 | 79,8 | .99936 | | 3 07 00.81 |
| 0.0545 | 0.05447 | 10,0 | 0.99852 | 0,5 | 8.73618 | 79,6 | 9.99935 | 0,2 | 3 07 21.43 |
| .0546 | .05457 | | .99851 | | .73698 | 79,5 | .99935 | | 3 07 42.06 |
| .0547 | .05467 | | .99850 | | .73777 | 79,3 | .99935 | | 3 08 02.68 |
| .0548 | .05477 | | .99850 | | .73856 | 79,2 | .99935 | | 3 08 23.31 |
| .0549 | .05487 | | .99849 | | .73935 | 79,0 | .99935 | | 3 08 43.94 |
| 0.0550 | 0.05497 | 10,0 | 0.99849 | 0,5 | 8.74014 | 78,9 | 9.99934 | 0,2 | 3 09 04.56 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\infty F_0'$ | cos u | $\infty F_0'$ | log sin u | $\infty F_0'$ | log cos u | $\infty F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|------------|
| 0.0550 | 0.05497 | 10,0 | 0.99840 | 0,5 | 8.74014 | 78,9 | 9.99934 | 0,2 | 3 09 04.56 |
| .0551 | .05507 | | .99848 | 0,6 | .74093 | 78,7 | .99934 | | 3 09 25.19 |
| .0552 | .05517 | | .99848 | | .74172 | 78,6 | .99934 | | 3 09 45.82 |
| .0553 | .05527 | | .99847 | | .74250 | 78,5 | .99934 | | 3 10 06.44 |
| .0554 | .05537 | | .99847 | | .74329 | 78,3 | .99933 | | 3 10 27.07 |
| 0.0555 | 0.05547 | 10,0 | 0.99846 | 0,6 | 8.74407 | 78,2 | 9.99933 | 0,2 | 3 10 47.70 |
| .0556 | .05557 | | .99845 | | .74485 | 78,0 | .99933 | | 3 11 08.32 |
| .0557 | .05567 | | .99845 | | .74563 | 77,9 | .99933 | | 3 11 28.95 |
| .0558 | .05577 | | .99844 | | .74641 | 77,7 | .99932 | | 3 11 49.58 |
| .0559 | .05587 | | .99844 | | .74719 | 77,6 | .99932 | | 3 12 10.20 |
| 0.0560 | 0.05597 | 10,0 | 0.99843 | 0,6 | 8.74796 | 77,5 | 9.99932 | 0,2 | 3 12 30.83 |
| .0561 | .05607 | | .99843 | | .74873 | 77,3 | .99932 | | 3 12 51.46 |
| .0562 | .05617 | | .99842 | | .74951 | 77,2 | .99931 | | 3 13 12.08 |
| .0563 | .05627 | | .99842 | | .75028 | 77,1 | .99931 | | 3 13 32.71 |
| .0564 | .05637 | | .99841 | | .75105 | 76,9 | .99931 | | 3 13 53.34 |
| 0.0565 | 0.05647 | 10,0 | 0.99840 | 0,6 | 8.75182 | 76,8 | 9.99931 | 0,2 | 3 14 13.96 |
| .0566 | .05657 | | .99840 | | .75258 | 76,6 | .99930 | | 3 14 34.59 |
| .0567 | .05667 | | .99839 | | .75335 | 76,5 | .99930 | | 3 14 55.21 |
| .0568 | .05677 | | .99839 | | .75411 | 76,4 | .99930 | | 3 15 15.84 |
| .0569 | .05687 | | .99838 | | .75488 | 76,2 | .99930 | | 3 15 36.47 |
| 0.0570 | 0.05697 | 10,0 | 0.99838 | 0,6 | 8.75564 | 76,1 | 9.99929 | 0,2 | 3 15 57.09 |
| .0571 | .05707 | | .99837 | | .75640 | 76,0 | .99929 | | 3 16 17.72 |
| .0572 | .05717 | | .99836 | | .75716 | 75,8 | .99929 | | 3 16 38.35 |
| .0573 | .05727 | | .99836 | | .75792 | 75,7 | .99929 | | 3 16 58.97 |
| .0574 | .05737 | | .99835 | | .75867 | 75,6 | .99928 | | 3 17 19.60 |
| 0.0575 | 0.05747 | 10,0 | 0.99835 | 0,6 | 8.75943 | 75,4 | 9.99928 | 0,2 | 3 17 40.23 |
| .0576 | .05757 | | .99834 | | .76018 | 75,3 | .99928 | 0,3 | 3 18 00.85 |
| .0577 | .05767 | | .99834 | | .76093 | 75,2 | .99928 | | 3 18 21.48 |
| .0578 | .05777 | | .99833 | | .76169 | 75,1 | .99927 | | 3 18 42.11 |
| .0579 | .05787 | | .99832 | | .76244 | 74,9 | .99927 | | 3 19 02.73 |
| 0.0580 | 0.05797 | 10,0 | 0.99832 | 0,6 | 8.76318 | 74,8 | 9.99927 | 0,3 | 3 19 23.36 |
| .0581 | .05807 | | .99831 | | .76393 | 74,7 | .99927 | | 3 19 43.99 |
| .0582 | .05817 | | .99831 | | .76468 | 74,5 | .99926 | | 3 20 04.61 |
| .0583 | .05827 | | .99830 | | .76542 | 74,4 | .99926 | | 3 20 25.24 |
| .0584 | .05837 | | .99830 | | .76617 | 74,3 | .99926 | | 3 20 45.86 |
| 0.0585 | 0.05847 | 10,0 | 0.99829 | 0,6 | 8.76691 | 74,2 | 9.99926 | 0,3 | 3 21 06.49 |
| .0586 | .05857 | | .99828 | | .76765 | 74,0 | .99925 | | 3 21 27.12 |
| .0587 | .05867 | | .99828 | | .76839 | 73,9 | .99925 | | 3 21 47.74 |
| .0588 | .05877 | | .99827 | | .76913 | 73,8 | .99925 | | 3 22 08.37 |
| .0589 | .05887 | | .99827 | | .76986 | 73,6 | .99925 | | 3 22 29.00 |
| 0.0590 | 0.05897 | 10,0 | 0.99826 | 0,6 | 8.77060 | 73,5 | 9.99924 | 0,3 | 3 22 49.62 |
| .0591 | .05907 | | .99825 | | .77133 | 73,4 | .99924 | | 3 23 10.25 |
| .0592 | .05917 | | .99825 | | .77207 | 73,3 | .99924 | | 3 23 30.88 |
| .0593 | .05927 | | .99824 | | .77280 | 73,2 | .99924 | | 3 23 51.50 |
| .0594 | .05937 | | .99824 | | .77353 | 73,0 | .99923 | | 3 24 12.13 |
| 0.0595 | 0.05946 | 10,0 | 0.99823 | 0,6 | 8.77426 | 72,9 | 9.99923 | 0,3 | 3 24 32.76 |
| .0596 | .05956 | | .99822 | | .77499 | 72,8 | .99923 | | 3 24 53.38 |
| .0597 | .05966 | | .99822 | | .77572 | 72,7 | .99923 | | 3 25 14.01 |
| .0598 | .05976 | | .99821 | | .77644 | 72,5 | .99922 | | 3 25 34.64 |
| .0599 | .05986 | | .99821 | | .77717 | 72,4 | .99922 | | 3 25 55.26 |
| 0.0600 | 0.05996 | 10,0 | 0.99820 | 0,6 | 8.77789 | 72,3 | 9.99922 | 0,3 | 3 26 15.89 |
| u | -1 sinh iu | $\infty F_0'$ | cosh iu | $\infty F_0'$ | log $\frac{\sinh iu}{i}$ | $\infty F_0'$ | log cosh iu | $\infty F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|-------------|
| 0.0000 | 0.05996 | 10,0 | 0.99820 | 0,6 | 8.77789 | 72,3 | 9.99922 | 0,3 | 3 26' 15.89 |
| .0001 | .06006 | | .99819 | | .77851 | 72,2 | .99922 | | 3 26 36.51 |
| .0002 | .06016 | | .99819 | | .77933 | 72,1 | .99921 | | 3 26 57.14 |
| .0003 | .06026 | | .99818 | | .78005 | 71,9 | .99921 | | 3 27 17.77 |
| .0004 | .06036 | | .99818 | | .78077 | 71,8 | .99921 | | 3 27 38.39 |
| 0.0005 | 0.06046 | 10,0 | 0.99817 | 0,6 | 8.78149 | 71,7 | 9.99920 | 0,3 | 3 27 59.02 |
| .0006 | .06056 | | .99816 | | .78221 | 71,6 | .99920 | | 3 28 19.65 |
| .0007 | .06066 | | .99816 | | .78292 | 71,5 | .99920 | | 3 28 40.27 |
| .0008 | .06076 | | .99815 | | .78364 | 71,3 | .99920 | | 3 29 00.90 |
| .0009 | .06086 | | .99815 | | .78435 | 71,2 | .99919 | | 3 29 21.53 |
| 0.0010 | 0.06096 | 10,0 | 0.99814 | 0,6 | 8.78506 | 71,1 | 9.99919 | 0,3 | 3 29 42.15 |
| .0011 | .06106 | | .99813 | | .78577 | 71,0 | .99919 | | 3 30 02.78 |
| .0012 | .06116 | | .99813 | | .78648 | 70,9 | .99919 | | 3 30 23.41 |
| .0013 | .06126 | | .99812 | | .78719 | 70,8 | .99918 | | 3 30 44.03 |
| .0014 | .06136 | | .99812 | | .78790 | 70,6 | .99918 | | 3 31 04.66 |
| 0.0015 | 0.06146 | 10,0 | 0.99811 | 0,6 | 8.78860 | 70,5 | 9.99918 | 0,3 | 3 31 25.29 |
| .0016 | .06156 | | .99810 | | .78931 | 70,4 | .99918 | | 3 31 45.91 |
| .0017 | .06166 | | .99810 | | .79001 | 70,3 | .99917 | | 3 32 05.54 |
| .0018 | .06176 | | .99809 | | .79071 | 70,2 | .99917 | | 3 32 27.17 |
| .0019 | .06186 | | .99808 | | .79141 | 70,1 | .99917 | | 3 32 47.79 |
| 0.0020 | 0.06196 | 10,0 | 0.99808 | 0,6 | 8.79211 | 70,0 | 9.99916 | 0,3 | 3 33 08.42 |
| .0021 | .06206 | | .99807 | | .79281 | 69,8 | .99916 | | 3 33 29.04 |
| .0022 | .06216 | | .99807 | | .79351 | 69,7 | .99916 | | 3 33 49.67 |
| .0023 | .06226 | | .99806 | | .79421 | 69,6 | .99916 | | 3 34 10.30 |
| .0024 | .06236 | | .99805 | | .79490 | 69,5 | .99915 | | 3 34 30.92 |
| 0.0025 | 0.06246 | 10,0 | 0.99805 | 0,6 | 8.79560 | 69,4 | 9.99915 | 0,3 | 3 34 51.55 |
| .0026 | .06256 | | .99804 | | .79629 | 69,3 | .99915 | | 3 35 12.18 |
| .0027 | .06266 | | .99804 | | .79698 | 69,2 | .99915 | | 3 35 32.80 |
| .0028 | .06276 | | .99803 | | .79767 | 69,1 | .99914 | | 3 35 53.43 |
| .0029 | .06286 | | .99802 | | .79836 | 69,0 | .99914 | | 3 36 14.06 |
| 0.0030 | 0.06296 | 10,0 | 0.99802 | 0,6 | 8.79905 | 68,8 | 9.99914 | 0,3 | 3 36 34.68 |
| .0031 | .06306 | | .99801 | | .79974 | 68,7 | .99913 | | 3 36 55.31 |
| .0032 | .06316 | | .99800 | | .80043 | 68,6 | .99913 | | 3 37 15.94 |
| .0033 | .06326 | | .99800 | | .80111 | 68,5 | .99913 | | 3 37 36.56 |
| .0034 | .06336 | | .99799 | | .80180 | 68,4 | .99913 | | 3 37 57.19 |
| 0.0035 | 0.06346 | 10,0 | 0.99798 | 0,6 | 8.80248 | 68,3 | 9.99912 | 0,3 | 3 38 17.82 |
| .0036 | .06356 | | .99798 | | .80316 | 68,2 | .99912 | | 3 38 38.44 |
| .0037 | .06366 | | .99797 | | .80385 | 68,1 | .99912 | | 3 38 59.07 |
| .0038 | .06376 | | .99797 | | .80453 | 68,0 | .99912 | | 3 39 19.69 |
| .0039 | .06386 | | .99796 | | .80521 | 67,9 | .99911 | | 3 39 40.32 |
| 0.0040 | 0.06396 | 10,0 | 0.99795 | 0,6 | 8.80588 | 67,8 | 9.99911 | 0,3 | 3 40 00.95 |
| .0041 | .06406 | | .99795 | | .80656 | 67,7 | .99911 | | 3 40 21.57 |
| .0042 | .06416 | | .99794 | | .80724 | 67,6 | .99910 | | 3 40 42.20 |
| .0043 | .06426 | | .99793 | | .80791 | 67,4 | .99910 | | 3 41 02.83 |
| .0044 | .06436 | | .99793 | | .80859 | 67,3 | .99910 | | 3 41 23.45 |
| 0.0045 | 0.06446 | 10,0 | 0.99792 | 0,6 | 8.80926 | 67,2 | 9.99910 | 0,3 | 3 41 44.08 |
| .0046 | .06456 | | .99791 | | .80993 | 67,1 | .99909 | | 3 42 04.71 |
| .0047 | .06466 | | .99791 | | .81060 | 67,0 | .99909 | | 3 42 25.33 |
| .0048 | .06476 | | .99790 | | .81127 | 66,9 | .99909 | | 3 42 45.96 |
| .0049 | .06486 | | .99789 | | .81194 | 66,8 | .99908 | | 3 43 06.59 |
| 0.0050 | 0.06496 | 10,0 | 0.99789 | 0,6 | 8.81261 | 66,7 | 9.99908 | 0,3 | 3 43 27.21 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|---------------|
| 0.0650 | 0.06495 | 10,0 | 0.99789 | 0,6 | 8.81261 | 66,7 | 9.99908 | 0,3 | 3° 43' 27".21 |
| .0651 | .06505 | | .99788 | 0,7 | .81327 | 66,6 | .99908 | | 3 43 47.84 |
| .0652 | .06515 | | .99788 | | .81394 | 66,5 | .99908 | | 3 44 08.47 |
| .0653 | .06525 | | .99787 | | .81460 | 66,4 | .99907 | | 3 44 29.09 |
| .0654 | .06535 | | .99786 | | .81527 | 66,3 | .99907 | | 3 44 49.72 |
| 0.0655 | 0.06545 | 10,0 | 0.99786 | 0,7 | 8.81593 | 66,2 | 9.99907 | 0,3 | 3 45 10.34 |
| .0656 | .06555 | | .99785 | | .81659 | 66,1 | .99906 | | 3 45 30.97 |
| .0657 | .06565 | | .99784 | | .81725 | 66,0 | .99906 | | 3 45 51.60 |
| .0658 | .06575 | | .99784 | | .81791 | 65,9 | .99906 | | 3 46 12.22 |
| .0659 | .06585 | | .99783 | | .81857 | 65,8 | .99906 | | 3 46 32.85 |
| 0.0660 | 0.06595 | 10,0 | 0.99782 | 0,7 | 8.81923 | 65,7 | 9.99905 | 0,3 | 3 46 53.48 |
| .0661 | .06605 | | .99782 | | .81989 | 65,6 | .99905 | | 3 47 14.10 |
| .0662 | .06615 | | .99781 | | .82054 | 65,5 | .99905 | | 3 47 34.73 |
| .0663 | .06625 | | .99780 | | .82120 | 65,4 | .99904 | | 3 47 55.36 |
| .0664 | .06635 | | .99780 | | .82185 | 65,3 | .99904 | | 3 48 15.98 |
| 0.0665 | 0.06645 | 10,0 | 0.99779 | 0,7 | 8.82250 | 65,2 | 9.99904 | 0,3 | 3 48 36.61 |
| .0666 | .06655 | | .99778 | | .82315 | 65,1 | .99904 | | 3 48 57.24 |
| .0667 | .06665 | | .99778 | | .82380 | 65,0 | .99903 | | 3 49 17.86 |
| .0668 | .06675 | | .99777 | | .82445 | 64,9 | .99903 | | 3 49 38.49 |
| .0669 | .06685 | | .99776 | | .82510 | 64,8 | .99903 | | 3 49 59.12 |
| 0.0670 | 0.06695 | 10,0 | 0.99776 | 0,7 | 8.82575 | 64,7 | 9.99902 | 0,3 | 3 50 19.74 |
| .0671 | .06705 | | .99775 | | .82640 | 64,6 | .99902 | | 3 50 40.37 |
| .0672 | .06715 | | .99774 | | .82704 | 64,5 | .99902 | | 3 51 00.99 |
| .0673 | .06725 | | .99774 | | .82769 | 64,4 | .99902 | | 3 51 21.62 |
| .0674 | .06735 | | .99773 | | .82833 | 64,3 | .99901 | | 3 51 42.25 |
| 0.0675 | 0.06745 | 10,0 | 0.99772 | 0,7 | 8.82897 | 64,2 | 9.99901 | 0,3 | 3 52 02.87 |
| .0676 | .06755 | | .99772 | | .82962 | 64,1 | .99901 | | 3 52 23.50 |
| .0677 | .06765 | | .99771 | | .83026 | 64,1 | .99900 | | 3 52 44.13 |
| .0678 | .06775 | | .99770 | | .83090 | 64,0 | .99900 | | 3 53 04.75 |
| .0679 | .06785 | | .99770 | | .83154 | 63,9 | .99900 | | 3 53 25.38 |
| 0.0680 | 0.06795 | 10,0 | 0.99769 | 0,7 | 8.83217 | 63,8 | 9.99900 | 0,3 | 3 53 46.01 |
| .0681 | .06805 | | .99768 | | .83281 | 63,7 | .99899 | | 3 54 06.63 |
| .0682 | .06815 | | .99768 | | .83345 | 63,6 | .99899 | | 3 54 27.26 |
| .0683 | .06825 | | .99767 | | .83408 | 63,5 | .99899 | | 3 54 47.89 |
| .0684 | .06835 | | .99766 | | .83472 | 63,4 | .99898 | | 3 55 08.51 |
| 0.0685 | 0.06845 | 10,0 | 0.99765 | 0,7 | 8.83535 | 63,3 | 9.99898 | 0,3 | 3 55 29.14 |
| .0686 | .06855 | | .99765 | | .83598 | 63,2 | .99898 | | 3 55 49.77 |
| .0687 | .06865 | | .99764 | | .83662 | 63,1 | .99897 | | 3 56 10.39 |
| .0688 | .06875 | | .99763 | | .83725 | 63,0 | .99897 | | 3 56 31.02 |
| .0689 | .06885 | | .99763 | | .83788 | 62,9 | .99897 | | 3 56 51.65 |
| 0.0690 | 0.06895 | 10,0 | 0.99762 | 0,7 | 8.83850 | 62,8 | 9.99897 | 0,3 | 3 57 12.27 |
| .0691 | .06905 | | .99761 | | .83913 | 62,8 | .99896 | | 3 57 32.90 |
| .0692 | .06914 | | .99761 | | .83976 | 62,7 | .99896 | | 3 57 53.52 |
| .0693 | .06924 | | .99760 | | .84039 | 62,6 | .99896 | | 3 58 14.15 |
| .0694 | .06934 | | .99759 | | .84101 | 62,5 | .99895 | | 3 58 34.78 |
| 0.0695 | 0.06944 | 10,0 | 0.99759 | 0,7 | 8.84164 | 62,4 | 9.99895 | 0,3 | 3 58 55.40 |
| .0696 | .06954 | | .99758 | | .84226 | 62,3 | .99895 | | 3 59 16.03 |
| .0697 | .06964 | | .99757 | | .84288 | 62,2 | .99894 | | 3 59 36.66 |
| .0698 | .06974 | | .99756 | | .84350 | 62,1 | .99894 | | 3 59 57.28 |
| .0699 | .06984 | | .99756 | | .84412 | 62,0 | .99894 | | 4 00 17.91 |
| 0.0700 | 0.06994 | 10,0 | 0.99755 | 0,7 | .84474 | 61,9 | 9.99894 | 0,3 | 4 00 38.54 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|------------|---------------|------------|---------------|------------|
| 0.0700 | 0.06994 | 10,0 | 0.99755 | 0,7 | 8.84474 | 61,9 | 9.99894 | 0,3 | 4 00 38.54 |
| .0701 | .07004 | | .99754 | | .84536 | 61,9 | .99893 | | 4 00 59.16 |
| .0702 | .07014 | | .99754 | | .84598 | 61,8 | .99893 | | 4 01 19.79 |
| .0703 | .07024 | | .99753 | | .84660 | 61,7 | .99893 | | 4 01 40.42 |
| .0704 | .07034 | | .99752 | | .84721 | 61,6 | .99892 | | 4 02 01.04 |
| 0.0705 | 0.07044 | 10,0 | 0.99752 | 0,7 | 8.84783 | 61,5 | 9.99892 | 0,3 | 4 02 21.67 |
| .0705 | .07054 | | .99751 | | .84844 | 61,4 | .99892 | | 4 02 42.30 |
| .0707 | .07064 | | .99750 | | .84905 | 61,3 | .99891 | | 4 03 02.92 |
| .0708 | .07074 | | .99749 | | .84967 | 61,2 | .99891 | | 4 03 23.55 |
| .0709 | .07084 | | .99749 | | .85028 | 61,2 | .99891 | | 4 03 44.17 |
| 0.0710 | 0.07094 | 10,0 | 0.99748 | 0,7 | 8.85089 | 61,1 | 9.99890 | 0,3 | 4 04 04.80 |
| .0711 | .07104 | | .99747 | | .85150 | 61,0 | .99890 | | 4 04 25.43 |
| .0712 | .07114 | | .99747 | | .85211 | 60,9 | .99890 | | 4 04 46.05 |
| .0713 | .07124 | | .99746 | | .85272 | 60,8 | .99890 | | 4 05 06.68 |
| .0714 | .07134 | | .99745 | | .85333 | 60,7 | .99889 | | 4 05 27.31 |
| 0.0715 | 0.07144 | 10,0 | 0.99744 | 0,7 | 8.85394 | 60,6 | 9.99889 | 0,3 | 4 05 47.93 |
| .0716 | .07154 | | .99744 | | .85454 | 60,6 | .99889 | | 4 06 08.56 |
| .0717 | .07164 | | .99743 | | .85515 | 60,5 | .99888 | | 4 06 29.19 |
| .0718 | .07174 | | .99742 | | .85575 | 60,4 | .99888 | | 4 06 49.81 |
| .0719 | .07184 | | .99742 | | .85635 | 60,3 | .99888 | | 4 07 10.44 |
| 0.0720 | 0.07194 | 10,0 | 0.99741 | 0,7 | 8.85696 | 60,2 | 9.99887 | 0,3 | 4 07 31.07 |
| .0721 | .07204 | | .99740 | | .85756 | 60,1 | .99887 | | 4 07 51.69 |
| .0722 | .07214 | | .99739 | | .85816 | 60,0 | .99887 | | 4 08 12.32 |
| .0723 | .07224 | | .99739 | | .85876 | 60,0 | .99886 | | 4 08 32.95 |
| .0724 | .07234 | | .99738 | | .85936 | 59,9 | .99886 | | 4 08 53.57 |
| 0.0725 | 0.07244 | 10,0 | 0.99737 | 0,7 | 8.85996 | 59,8 | 9.99886 | 0,3 | 4 09 14.20 |
| .0726 | .07254 | | .99737 | | .86056 | 59,7 | .99885 | | 4 09 34.82 |
| .0727 | .07264 | | .99736 | | .86115 | 59,6 | .99885 | | 4 09 55.45 |
| .0728 | .07274 | | .99735 | | .86175 | 59,6 | .99885 | | 4 10 16.08 |
| .0729 | .07284 | | .99734 | | .86234 | 59,5 | .99884 | | 4 10 36.70 |
| 0.0730 | 0.07294 | 10,0 | 0.99734 | 0,7 | 8.86294 | 59,4 | 9.99884 | 0,3 | 4 10 57.33 |
| .0731 | .07303 | | .99733 | | .86353 | 59,3 | .99884 | | 4 11 17.96 |
| .0732 | .07313 | | .99732 | | .86412 | 59,2 | .99884 | | 4 11 38.58 |
| .0733 | .07323 | | .99731 | | .86472 | 59,1 | .99883 | | 4 11 59.21 |
| .0734 | .07333 | | .99731 | | .86531 | 59,1 | .99883 | | 4 12 19.84 |
| 0.0735 | 0.07343 | 10,0 | 0.99730 | 0,7 | 8.86390 | 59,0 | 9.99883 | 0,3 | 4 12 40.46 |
| .0736 | .07353 | | .99729 | | .86649 | 58,9 | .99882 | | 4 13 01.09 |
| .0737 | .07363 | | .99729 | | .86707 | 58,8 | .99882 | | 4 13 21.72 |
| .0738 | .07373 | | .99728 | | .86766 | 58,7 | .99882 | | 4 13 42.34 |
| .0739 | .07383 | | .99727 | | .86825 | 58,7 | .99881 | | 4 14 02.97 |
| 0.0740 | 0.07393 | 10,0 | 0.99726 | 0,7 | 8.86884 | 58,6 | 9.99881 | 0,3 | 4 14 23.60 |
| .0741 | .07403 | | .99726 | | .86942 | 58,5 | .99881 | | 4 14 44.22 |
| .0742 | .07413 | | .99725 | | .87001 | 58,4 | .99880 | | 4 15 04.85 |
| .0743 | .07423 | | .99724 | | .87059 | 58,3 | .99880 | | 4 15 25.48 |
| .0744 | .07433 | | .99723 | | .87117 | 58,3 | .99880 | | 4 15 46.10 |
| 0.0745 | 0.07443 | 10,0 | 0.99723 | 0,7 | 8.87175 | 58,2 | 9.99879 | 0,3 | 4 16 06.73 |
| .0746 | .07453 | | .99722 | | .87234 | 58,1 | .99879 | | 4 16 27.35 |
| .0747 | .07463 | | .99721 | | .87292 | 58,0 | .99879 | | 4 16 47.98 |
| .0748 | .07473 | | .99720 | | .87350 | 58,0 | .99878 | | 4 17 08.61 |
| .0749 | .07483 | | .99720 | | .87408 | 57,9 | .99878 | | 4 17 29.23 |
| 0.0750 | 0.07493 | 10,0 | 0.99719 | 0,7 | 8.87465 | 57,8 | 9.99878 | 0,3 | 4 17 49.86 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log sinh u | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|--------------|
| 0.0750 | 0.07493 | 10,0 | 0.99719 | 0,7 | 8.87465 | 57,8 | 9.99878 | 0,3 | 4 17' 49".86 |
| .0751 | .07503 | | .99718 | 0,8 | .87523 | 57,7 | .99877 | | 4 18 10.49 |
| .0752 | .07513 | | .99717 | | .87581 | 57,6 | .99877 | | 4 18 31.11 |
| .0753 | .07523 | | .99717 | | .87638 | 57,6 | .99877 | | 4 18 51.74 |
| .0754 | .07533 | | .99716 | | .87695 | 57,5 | .99876 | | 4 19 12.37 |
| 0.0755 | 0.07543 | 10,0 | 0.99715 | 0,8 | 8.87753 | 57,4 | 9.99876 | 0,3 | 4 19 32.99 |
| .0756 | .07553 | | .99714 | | .87811 | 57,3 | .99876 | | 4 19 53.62 |
| .0757 | .07563 | | .99714 | | .87858 | 57,3 | .99875 | | 4 20 14.25 |
| .0758 | .07573 | | .99713 | | .87925 | 57,2 | .99875 | | 4 20 34.87 |
| .0759 | .07583 | | .99712 | | .87982 | 57,1 | .99875 | | 4 20 55.50 |
| 0.0760 | 0.07593 | 10,0 | 0.99711 | 0,8 | 8.88040 | 57,0 | 9.99874 | 0,3 | 4 21 16.13 |
| .0761 | .07603 | | .99711 | | .88097 | 57,0 | .99874 | | 4 21 36.75 |
| .0762 | .07613 | | .99710 | | .88153 | 56,9 | .99874 | | 4 21 57.38 |
| .0763 | .07623 | | .99709 | | .88210 | 56,8 | .99873 | | 4 22 18.00 |
| .0764 | .07633 | | .99708 | | .88267 | 56,7 | .99873 | | 4 22 38.63 |
| 0.0765 | 0.07643 | 10,0 | 0.99708 | 0,8 | 8.88324 | 56,7 | 9.99873 | 0,3 | 4 22 59.26 |
| .0766 | .07653 | | .99707 | | .88380 | 56,6 | .99872 | | 4 23 19.88 |
| .0767 | .07662 | | .99706 | | .88437 | 56,5 | .99872 | | 4 23 40.51 |
| .0768 | .07672 | | .99705 | | .88493 | 56,4 | .99872 | | 4 24 01.14 |
| .0769 | .07682 | | .99704 | | .88550 | 56,4 | .99871 | | 4 24 21.76 |
| 0.0770 | 0.07692 | 10,0 | 0.99704 | 0,8 | 8.88606 | 56,3 | 9.99871 | 0,3 | 4 24 42.39 |
| .0771 | .07702 | | .99703 | | .88562 | 56,2 | .99871 | | 4 25 03.02 |
| .0772 | .07712 | | .99702 | | .88719 | 56,1 | .99870 | | 4 25 23.64 |
| .0773 | .07722 | | .99701 | | .88775 | 56,1 | .99870 | | 4 25 44.27 |
| .0774 | .07732 | | .99701 | | .88831 | 56,0 | .99870 | | 4 26 04.90 |
| 0.0775 | 0.07742 | 10,0 | 0.99700 | 0,8 | 8.88887 | 55,9 | 9.99869 | 0,3 | 4 26 25.52 |
| .0776 | .07752 | | .99699 | | .88943 | 55,9 | .99869 | | 4 26 46.15 |
| .0777 | .07762 | | .99698 | | .88998 | 55,8 | .99869 | | 4 27 06.78 |
| .0778 | .07772 | | .99698 | | .89054 | 55,7 | .99868 | | 4 27 27.40 |
| .0779 | .07782 | | .99697 | | .89110 | 55,6 | .99868 | | 4 27 48.03 |
| 0.0780 | 0.07792 | 10,0 | 0.99696 | 0,8 | 8.89165 | 55,6 | 9.99868 | 0,3 | 4 28 08.65 |
| .0781 | .07802 | | .99695 | | .89221 | 55,5 | .99867 | | 4 28 29.28 |
| .0782 | .07812 | | .99694 | | .89275 | 55,4 | .99867 | | 4 28 49.91 |
| .0783 | .07822 | | .99694 | | .89332 | 55,4 | .99867 | | 4 29 10.53 |
| .0784 | .07832 | | .99693 | | .89387 | 55,3 | .99866 | | 4 29 31.16 |
| 0.0785 | 0.07842 | 10,0 | 0.99692 | 0,8 | 8.89442 | 55,2 | 9.99866 | 0,3 | 4 29 51.79 |
| .0786 | .07852 | | .99691 | | .89498 | 55,1 | .99866 | | 4 30 12.41 |
| .0787 | .07862 | | .99690 | | .89553 | 55,1 | .99865 | | 4 30 33.04 |
| .0788 | .07872 | | .99690 | | .89608 | 55,0 | .99865 | | 4 30 53.67 |
| .0789 | .07882 | | .99689 | | .89663 | 54,9 | .99865 | | 4 31 14.29 |
| 0.0790 | 0.07892 | 10,0 | 0.99688 | 0,8 | 8.89718 | 54,9 | 9.99864 | 0,3 | 4 31 34.92 |
| .0791 | .07902 | | .99687 | | .89772 | 54,8 | .99864 | | 4 31 55.55 |
| .0792 | .07912 | | .99687 | | .89827 | 54,7 | .99864 | | 4 32 16.17 |
| .0793 | .07922 | | .99686 | | .89882 | 54,7 | .99863 | | 4 32 36.80 |
| .0794 | .07932 | | .99685 | | .89936 | 54,6 | .99863 | | 4 32 57.43 |
| 0.0795 | 0.07942 | 10,0 | 0.99684 | 0,8 | 8.89991 | 54,6 | 9.99863 | 0,3 | 4 33 18.05 |
| .0796 | .07952 | | .99683 | | .90045 | 54,4 | .99862 | | 4 33 38.68 |
| .0797 | .07962 | | .99683 | | .90100 | 54,4 | .99862 | | 4 33 59.31 |
| .0798 | .07972 | | .99682 | | .90154 | 54,3 | .99862 | | 4 34 19.93 |
| .0799 | .07982 | | .99681 | | .90208 | 54,2 | .99861 | | 4 34 40.56 |
| 0.0800 | 0.07991 | 10,0 | 0.99680 | 0,8 | 8.90263 | 54,2 | 9.99861 | 0,3 | 4 35 01.18 |
| u | -1 sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|------------|
| 0.0800 | 0.07991 | 10.0 | 0.99680 | 0.8 | 8.90253 | 54.2 | 9.99851 | 0.3 | 4 35 01.18 |
| .0801 | .08001 | | .99679 | | .90317 | 54.1 | .99851 | | 4 35 21.81 |
| .0802 | .08011 | | .99679 | | .90371 | 54.0 | .99850 | | 4 35 42.44 |
| .0803 | .08021 | | .99678 | | .90425 | 54.0 | .99850 | | 4 36 03.06 |
| .0804 | .08031 | | .99677 | | .90479 | 53.9 | .99859 | | 4 36 23.69 |
| 0.0805 | 0.08041 | 10.0 | 0.99676 | 0.8 | 8.90533 | 53.8 | 9.99859 | 0.4 | 4 36 44.32 |
| .0806 | .08051 | | .99675 | | .90586 | 53.8 | .99859 | | 4 37 04.94 |
| .0807 | .08061 | | .99675 | | .90640 | 53.7 | .99858 | | 4 37 25.57 |
| .0808 | .08071 | | .99674 | | .90694 | 53.6 | .99858 | | 4 37 46.20 |
| .0809 | .08081 | | .99673 | | .90747 | 53.6 | .99858 | | 4 38 06.82 |
| 0.0810 | 0.08091 | 10.0 | 0.99672 | 0.8 | 8.90801 | 53.5 | 9.99857 | 0.4 | 4 38 27.45 |
| .0811 | .08101 | | .99671 | | .90854 | 53.4 | .99857 | | 4 38 48.08 |
| .0812 | .08111 | | .99671 | | .90908 | 53.4 | .99857 | | 4 39 08.70 |
| .0813 | .08121 | | .99670 | | .90951 | 53.3 | .99856 | | 4 39 29.33 |
| .0814 | .08131 | | .99669 | | .91014 | 53.2 | .99856 | | 4 39 49.96 |
| 0.0815 | 0.08141 | 10.0 | 0.99668 | 0.8 | 8.91068 | 53.2 | 9.99856 | 0.4 | 4 40 10.58 |
| .0816 | .08151 | | .99667 | | .91121 | 53.1 | .99855 | | 4 40 31.21 |
| .0817 | .08161 | | .99666 | | .91174 | 53.0 | .99855 | | 4 40 51.83 |
| .0818 | .08171 | | .99666 | | .91227 | 53.0 | .99855 | | 4 41 12.46 |
| .0819 | .08181 | | .99665 | | .91280 | 52.9 | .99854 | | 4 41 33.09 |
| 0.0820 | 0.08191 | 10.0 | 0.99664 | 0.8 | 8.91333 | 52.8 | 9.99854 | 0.4 | 4 41 53.71 |
| .0821 | .08201 | | .99663 | | .91386 | 52.8 | .99853 | | 4 42 14.34 |
| .0822 | .08211 | | .99662 | | .91438 | 52.7 | .99853 | | 4 42 34.97 |
| .0823 | .08221 | | .99662 | | .91491 | 52.7 | .99853 | | 4 42 55.59 |
| .0824 | .08231 | | .99661 | | .91544 | 52.6 | .99852 | | 4 43 16.22 |
| 0.0825 | 0.08241 | 10.0 | 0.99660 | 0.8 | 8.91596 | 52.5 | 9.99852 | 0.4 | 4 43 36.85 |
| .0826 | .08251 | | .99659 | | .91649 | 52.5 | .99852 | | 4 43 57.47 |
| .0827 | .08261 | | .99658 | | .91701 | 52.4 | .99851 | | 4 44 18.10 |
| .0828 | .08271 | | .99657 | | .91753 | 52.3 | .99851 | | 4 44 38.73 |
| .0829 | .08281 | | .99657 | | .91806 | 52.3 | .99851 | | 4 44 59.35 |
| 0.0830 | 0.08290 | 10.0 | 0.99656 | 0.8 | 8.91858 | 52.2 | 9.99850 | 0.4 | 4 45 19.98 |
| .0831 | .08300 | | .99655 | | .91910 | 52.1 | .99850 | | 4 45 40.61 |
| .0832 | .08310 | | .99654 | | .91962 | 52.1 | .99850 | | 4 46 01.23 |
| .0833 | .08320 | | .99653 | | .92014 | 52.0 | .99849 | | 4 46 21.86 |
| .0834 | .08330 | | .99652 | | .92066 | 52.0 | .99849 | | 4 46 42.48 |
| 0.0835 | 0.08340 | 10.0 | 0.99652 | 0.8 | 8.92118 | 51.9 | 9.99848 | 0.4 | 4 47 03.11 |
| .0836 | .08350 | | .99651 | | .92170 | 51.8 | .99848 | | 4 47 23.74 |
| .0837 | .08360 | | .99650 | | .92222 | 51.8 | .99848 | | 4 47 44.36 |
| .0838 | .08370 | | .99649 | | .92274 | 51.7 | .99847 | | 4 48 04.99 |
| .0839 | .08380 | | .99648 | | .92325 | 51.6 | .99847 | | 4 48 25.62 |
| 0.0840 | 0.08390 | 10.0 | 0.99647 | 0.8 | 8.92377 | 51.6 | 9.99847 | 0.4 | 4 48 46.24 |
| .0841 | .08400 | | .99647 | | .92428 | 51.5 | .99846 | | 4 49 06.87 |
| .0842 | .08410 | | .99646 | | .92480 | 51.5 | .99846 | | 4 49 27.50 |
| .0843 | .08420 | | .99645 | | .92531 | 51.4 | .99846 | | 4 49 48.12 |
| .0844 | .08430 | | .99644 | | .92583 | 51.3 | .99845 | | 4 50 08.75 |
| 0.0845 | 0.08440 | 10.0 | 0.99643 | 0.8 | 8.92634 | 51.3 | 9.99845 | 0.4 | 4 50 29.38 |
| .0846 | .08450 | | .99642 | | .92685 | 51.2 | .99844 | | 4 50 50.00 |
| .0847 | .08460 | | .99642 | | .92736 | 51.2 | .99844 | | 4 51 10.63 |
| .0848 | .08470 | | .99641 | | .92788 | 51.1 | .99844 | | 4 51 31.26 |
| .0849 | .08480 | | .99640 | | .92839 | 51.0 | .99843 | | 4 51 51.88 |
| 0.0850 | 0.08490 | 10.0 | 0.99639 | 0.8 | 8.92890 | 51.0 | 9.99843 | 0.4 | 4 52 12.51 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|--------------|
| 0.0850 | 0.08490 | 10,0 | 0.99639 | 0,8 | 8.92890 | 51,0 | 9.99843 | 0,4 | 4 52' 12".51 |
| .0851 | .08500 | | .99638 | 0,8 | .92941 | 50,9 | .99843 | | 4 52 33.14 |
| .0852 | .08510 | | .99637 | 0,9 | .92991 | 50,9 | .99842 | | 4 52 53.76 |
| .0853 | .08520 | | .99636 | | .93042 | 50,8 | .99842 | | 4 53 14.39 |
| .0854 | .08530 | | .99636 | | .93093 | 50,7 | .99841 | | 4 53 35.01 |
| 0.0855 | 0.08540 | 10,0 | 0.99635 | 0,9 | 8.93144 | 50,7 | 9.99841 | 0,4 | 4 53 55.64 |
| .0856 | .08550 | | .99634 | | .93194 | 50,6 | .99841 | | 4 54 16.27 |
| .0857 | .08560 | | .99633 | | .93245 | 50,6 | .99840 | | 4 54 36.89 |
| .0858 | .08569 | | .99632 | | .93295 | 50,5 | .99840 | | 4 54 57.52 |
| .0859 | .08579 | | .99631 | | .93346 | 50,4 | .99840 | | 4 55 18.15 |
| 0.0860 | 0.08589 | 10,0 | 0.99630 | 0,9 | 8.93396 | 50,4 | 9.99839 | 0,4 | 4 55 38.77 |
| .0861 | .08599 | | .99630 | | .93447 | 50,3 | .99839 | | 4 55 59.40 |
| .0862 | .08609 | | .99629 | | .93497 | 50,3 | .99838 | | 4 56 20.03 |
| .0863 | .08619 | | .99628 | | .93547 | 50,2 | .99838 | | 4 56 40.65 |
| .0864 | .08629 | | .99627 | | .93597 | 50,1 | .99838 | | 4 57 01.28 |
| 0.0865 | 0.08639 | 10,0 | 0.99626 | 0,9 | 8.93647 | 50,1 | 9.99837 | 0,4 | 4 57 21.91 |
| .0866 | .08649 | | .99625 | | .93697 | 50,0 | .99837 | | 4 57 42.53 |
| .0867 | .08659 | | .99624 | | .93747 | 50,0 | .99837 | | 4 58 03.16 |
| .0868 | .08669 | | .99624 | | .93797 | 49,9 | .99836 | | 4 58 23.79 |
| .0869 | .08679 | | .99623 | | .93847 | 49,9 | .99836 | | 4 58 44.41 |
| 0.0870 | 0.08689 | 10,0 | 0.99622 | 0,9 | 8.93897 | 49,8 | 9.99835 | 0,4 | 4 59 05.04 |
| .0871 | .08699 | | .99621 | | .93947 | 49,7 | .99835 | | 4 59 25.66 |
| .0872 | .08709 | | .99620 | | .93997 | 49,7 | .99835 | | 4 59 46.29 |
| .0873 | .08719 | | .99619 | | .94046 | 49,6 | .99834 | | 5 00 06.92 |
| .0874 | .08729 | | .99618 | | .94096 | 49,6 | .99834 | | 5 00 27.54 |
| 0.0875 | 0.08739 | 10,0 | 0.99617 | 0,9 | 8.94145 | 49,5 | 9.99834 | 0,4 | 5 00 48.17 |
| .0876 | .08749 | | .99617 | | .94195 | 49,5 | .99833 | | 5 01 08.80 |
| .0877 | .08759 | | .99616 | | .94244 | 49,4 | .99833 | | 5 01 29.42 |
| .0878 | .08769 | | .99615 | | .94294 | 49,3 | .99832 | | 5 01 50.05 |
| .0879 | .08779 | | .99614 | | .94343 | 49,3 | .99832 | | 5 02 10.68 |
| 0.0880 | 0.08789 | 10,0 | 0.99613 | 0,9 | 8.94392 | 49,2 | 9.99832 | 0,4 | 5 02 31.30 |
| .0881 | .08799 | | .99612 | | .94441 | 49,2 | .99831 | | 5 02 51.93 |
| .0882 | .08809 | | .99611 | | .94491 | 49,1 | .99831 | | 5 03 12.56 |
| .0883 | .08819 | | .99610 | | .94540 | 49,1 | .99830 | | 5 03 33.18 |
| .0884 | .08828 | | .99610 | | .94589 | 49,0 | .99830 | | 5 03 53.81 |
| 0.0885 | 0.08838 | 10,0 | 0.99609 | 0,9 | 8.94638 | 48,9 | 9.99830 | 0,4 | 5 04 14.44 |
| .0886 | .08848 | | .99608 | | .94687 | 48,9 | .99829 | | 5 04 35.06 |
| .0887 | .08858 | | .99607 | | .94735 | 48,8 | .99829 | | 5 04 55.69 |
| .0888 | .08868 | | .99606 | | .94784 | 48,8 | .99829 | | 5 05 16.31 |
| .0889 | .08878 | | .99605 | | .94833 | 48,7 | .99828 | | 5 05 36.94 |
| 0.0890 | 0.08888 | 10,0 | 0.99604 | 0,9 | 8.94882 | 48,7 | 9.99828 | 0,4 | 5 05 57.57 |
| .0891 | .08898 | | .99603 | | .94930 | 48,6 | .99827 | | 5 06 18.19 |
| .0892 | .08908 | | .99602 | | .94979 | 48,6 | .99827 | | 5 06 38.82 |
| .0893 | .08918 | | .99602 | | .95027 | 48,5 | .99827 | | 5 06 59.45 |
| .0894 | .08928 | | .99601 | | .95076 | 48,4 | .99826 | | 5 07 20.07 |
| 0.0895 | 0.08938 | 10,0 | 0.99600 | 0,9 | 8.95124 | 48,4 | 9.99826 | 0,4 | 5 07 40.70 |
| .0896 | .08948 | | .99599 | | .95173 | 48,3 | .99825 | | 5 08 01.33 |
| .0897 | .08958 | | .99598 | | .95221 | 48,3 | .99825 | | 5 08 21.95 |
| .0898 | .08968 | | .99597 | | .95269 | 48,2 | .99825 | | 5 08 42.58 |
| .0899 | .08978 | | .99596 | | .95317 | 48,2 | .99824 | | 5 09 03.21 |
| 0.0900 | 0.08988 | 10,0 | 0.99595 | 0,9 | 8.95366 | 48,1 | 9.99824 | 0,4 | 5 09 23.83 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|------------|
| 0.0900 | 0.08988 | 10,0 | 0.99595 | 0,9 | 8.95366 | 48,1 | 9.99824 | 0,4 | 5 09 23.83 |
| .0901 | .08998 | | .99594 | | .95414 | 48,1 | .99823 | | 5 09 44.46 |
| .0902 | .09008 | | .99593 | | .95462 | 48,0 | .99823 | | 5 10 05.09 |
| .0903 | .09018 | | .99593 | | .95510 | 48,0 | .99823 | | 5 10 25.71 |
| .0904 | .09028 | | .99592 | | .95558 | 47,9 | .99822 | | 5 10 46.34 |
| 0.0905 | 0.09038 | 10,0 | 0.99591 | 0,9 | 8.95606 | 47,9 | 9.99822 | 0,4 | 5 11 06.96 |
| .0906 | .09048 | | .99590 | | .95653 | 47,8 | .99822 | | 5 11 27.59 |
| .0907 | .09058 | | .99589 | | .95701 | 47,8 | .99821 | | 5 11 48.22 |
| .0908 | .09068 | | .99588 | | .95749 | 47,7 | .99821 | | 5 12 08.84 |
| .0909 | .09077 | | .99587 | | .95797 | 47,6 | .99820 | | 5 12 29.47 |
| 0.0910 | 0.09087 | 10,0 | 0.99586 | 0,9 | 8.95844 | 47,6 | 9.99820 | 0,4 | 5 12 50.10 |
| .0911 | .09097 | | .99585 | | .95892 | 47,5 | .99820 | | 5 13 10.72 |
| .0912 | .09107 | | .99584 | | .95939 | 47,5 | .99819 | | 5 13 31.35 |
| .0913 | .09117 | | .99584 | | .95987 | 47,4 | .99819 | | 5 13 51.98 |
| .0914 | .09127 | | .99583 | | .96034 | 47,4 | .99818 | | 5 14 12.60 |
| 0.0915 | 0.09137 | 10,0 | 0.99582 | 0,9 | 8.96081 | 47,3 | 9.99818 | 0,4 | 5 14 33.23 |
| .0916 | .09147 | | .99581 | | .96129 | 47,3 | .99818 | | 5 14 53.86 |
| .0917 | .09157 | | .99580 | | .96176 | 47,2 | .99817 | | 5 15 14.48 |
| .0918 | .09167 | | .99579 | | .96223 | 47,2 | .99817 | | 5 15 35.11 |
| .0919 | .09177 | | .99578 | | .96270 | 47,1 | .99816 | | 5 15 55.74 |
| 0.0920 | 0.09187 | 10,0 | 0.99577 | 0,9 | 8.96317 | 47,1 | 9.99816 | 0,4 | 5 16 16.36 |
| .0921 | .09197 | | .99576 | | .96365 | 47,0 | .99816 | | 5 16 36.99 |
| .0922 | .09207 | | .99575 | | .96412 | 47,0 | .99815 | | 5 16 57.62 |
| .0923 | .09217 | | .99574 | | .96458 | 46,9 | .99815 | | 5 17 18.24 |
| .0924 | .09227 | | .99573 | | .96505 | 46,9 | .99814 | | 5 17 38.87 |
| 0.0925 | 0.09237 | 10,0 | 0.99572 | 0,9 | 8.96552 | 46,8 | 9.99814 | 0,4 | 5 17 59.49 |
| .0926 | .09247 | | .99572 | | .96599 | 46,8 | .99814 | | 5 18 20.12 |
| .0927 | .09257 | | .99571 | | .96646 | 46,7 | .99813 | | 5 18 40.75 |
| .0928 | .09267 | | .99570 | | .96692 | 46,7 | .99813 | | 5 19 01.37 |
| .0929 | .09277 | | .99569 | | .96739 | 46,6 | .99812 | | 5 19 22.00 |
| 0.0930 | 0.09287 | 10,0 | 0.99568 | 0,9 | 8.96786 | 46,6 | 9.99812 | 0,4 | 5 19 42.63 |
| .0931 | .09297 | | .99567 | | .96832 | 46,5 | .99812 | | 5 20 03.25 |
| .0932 | .09307 | | .99566 | | .96879 | 46,5 | .99811 | | 5 20 23.88 |
| .0933 | .09316 | | .99565 | | .96925 | 46,4 | .99811 | | 5 20 44.51 |
| .0934 | .09326 | | .99564 | | .96972 | 46,4 | .99810 | | 5 21 05.13 |
| 0.0935 | 0.09336 | 10,0 | 0.99563 | 0,9 | 8.97018 | 46,3 | 9.99810 | 0,4 | 5 21 25.76 |
| .0936 | .09346 | | .99562 | | .97064 | 46,3 | .99809 | | 5 21 46.39 |
| .0937 | .09356 | | .99561 | | .97110 | 46,2 | .99809 | | 5 22 07.01 |
| .0938 | .09366 | | .99560 | | .97157 | 46,2 | .99809 | | 5 22 27.64 |
| .0939 | .09376 | | .99559 | | .97203 | 46,1 | .99808 | | 5 22 48.27 |
| 0.0940 | 0.09386 | 10,0 | 0.99559 | 0,9 | 8.97249 | 46,1 | 9.99808 | 0,4 | 5 23 08.89 |
| .0941 | .09396 | | .99558 | | .97295 | 46,0 | .99807 | | 5 23 29.52 |
| .0942 | .09406 | | .99557 | | .97341 | 46,0 | .99807 | | 5 23 50.14 |
| .0943 | .09416 | | .99556 | | .97387 | 45,9 | .99807 | | 5 24 10.77 |
| .0944 | .09426 | | .99555 | | .97433 | 45,9 | .99806 | | 5 24 31.40 |
| 0.0945 | 0.09436 | 10,0 | 0.99554 | 0,9 | 8.97479 | 45,8 | 9.99806 | 0,4 | 5 24 52.02 |
| .0946 | .09446 | | .99553 | | .97524 | 45,8 | .99805 | | 5 25 12.65 |
| .0947 | .09456 | | .99552 | | .97570 | 45,7 | .99805 | | 5 25 33.28 |
| .0948 | .09466 | | .99551 | | .97616 | 45,7 | .99805 | | 5 25 53.90 |
| .0949 | .09476 | | .99550 | | .97661 | 45,6 | .99804 | | 5 26 14.53 |
| 0.0950 | 0.09486 | 10,0 | 0.99549 | 0,9 | 8.97707 | 45,6 | 9.99804 | 0,4 | 5 26 35.16 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|-------------|
| 0.0950 | 0.09486 | 10,0 | 0.99549 | 0,9 | 8.97707 | 45,6 | 9.99804 | 0,4 | 5 26' 35.16 |
| .0951 | .09496 | | .99548 | 0,9 | .97753 | 45,5 | .99803 | | 5 26 55.78 |
| .0952 | .09506 | | .99547 | 1,0 | .97798 | 45,5 | .99803 | | 5 27 16.41 |
| .0953 | .09516 | | .99546 | | .97844 | 45,4 | .99802 | | 5 27 37.04 |
| .0954 | .09526 | | .99545 | | .97889 | 45,4 | .99802 | | 5 27 57.66 |
| 0.0955 | 0.09535 | 10,0 | 0.99544 | 1,0 | 8.97934 | 45,3 | 9.99802 | 0,4 | 5 28 18.29 |
| .0956 | .09545 | | .99543 | | .97980 | 45,3 | .99801 | | 5 28 38.92 |
| .0957 | .09555 | | .99542 | | .98025 | 45,2 | .99801 | | 5 28 59.54 |
| .0958 | .09565 | | .99541 | | .98070 | 45,2 | .99800 | | 5 29 20.17 |
| .0959 | .09575 | | .99541 | | .98115 | 45,1 | .99800 | | 5 29 40.79 |
| 0.0960 | 0.09585 | 10,0 | 0.99540 | 1,0 | 8.98160 | 45,1 | 9.99800 | 0,4 | 5 30 01.42 |
| .0961 | .09595 | | .99539 | | .98205 | 45,1 | .99799 | | 5 30 22.05 |
| .0962 | .09605 | | .99538 | | .98251 | 45,0 | .99799 | | 5 30 42.67 |
| .0963 | .09615 | | .99537 | | .98295 | 45,0 | .99798 | | 5 31 03.30 |
| .0964 | .09625 | | .99536 | | .98340 | 44,9 | .99798 | | 5 31 23.93 |
| 0.0965 | 0.09635 | 10,0 | 0.99535 | 1,0 | 8.98385 | 44,9 | 9.99797 | 0,4 | 5 31 44.55 |
| .0966 | .09645 | | .99534 | | .98430 | 44,8 | .99797 | | 5 32 05.18 |
| .0967 | .09655 | | .99533 | | .98475 | 44,8 | .99797 | | 5 32 25.81 |
| .0968 | .09665 | | .99532 | | .98520 | 44,7 | .99796 | | 5 32 46.43 |
| .0969 | .09675 | | .99531 | | .98564 | 44,7 | .99796 | | 5 33 07.06 |
| 0.0970 | 0.09685 | 10,0 | 0.99530 | 1,0 | 8.98609 | 44,6 | 9.99795 | 0,4 | 5 33 27.69 |
| .0971 | .09695 | | .99529 | | .98654 | 44,6 | .99795 | | 5 33 48.31 |
| .0972 | .09705 | | .99528 | | .98698 | 44,5 | .99795 | | 5 34 08.94 |
| .0973 | .09715 | | .99527 | | .98743 | 44,5 | .99794 | | 5 34 29.57 |
| .0974 | .09725 | | .99526 | | .98787 | 44,4 | .99794 | | 5 34 50.19 |
| 0.0975 | 0.09735 | 10,0 | 0.99525 | 1,0 | 8.98832 | 44,4 | 9.99793 | 0,4 | 5 35 10.82 |
| .0976 | .09745 | | .99524 | | .98876 | 44,4 | .99793 | | 5 35 31.45 |
| .0977 | .09754 | | .99523 | | .98920 | 44,3 | .99792 | | 5 35 52.07 |
| .0978 | .09764 | | .99522 | | .98965 | 44,3 | .99792 | | 5 36 12.70 |
| .0979 | .09774 | | .99521 | | .99009 | 44,2 | .99792 | | 5 36 33.32 |
| 0.0980 | 0.09784 | 10,0 | 0.99520 | 1,0 | 8.99053 | 44,2 | 9.99791 | 0,4 | 5 36 53.95 |
| .0981 | .09794 | | .99519 | | .99097 | 44,1 | .99791 | | 5 37 14.58 |
| .0982 | .09804 | | .99518 | | .99141 | 44,1 | .99790 | | 5 37 35.20 |
| .0983 | .09814 | | .99517 | | .99185 | 44,0 | .99790 | | 5 37 55.83 |
| .0984 | .09824 | | .99516 | | .99229 | 44,0 | .99789 | | 5 38 16.46 |
| 0.0985 | 0.09834 | 10,0 | 0.99515 | 1,0 | 8.99273 | 43,9 | 9.99789 | 0,4 | 5 38 37.08 |
| .0986 | .09844 | | .99514 | | .99317 | 43,9 | .99789 | | 5 38 57.71 |
| .0987 | .09854 | | .99513 | | .99361 | 43,9 | .99788 | | 5 39 18.34 |
| .0988 | .09864 | | .99512 | | .99405 | 43,8 | .99788 | | 5 39 38.96 |
| .0989 | .09874 | | .99511 | | .99449 | 43,8 | .99787 | | 5 39 59.59 |
| 0.0990 | 0.09884 | 10,0 | 0.99510 | 1,0 | 8.99493 | 43,7 | 9.99787 | 0,4 | 5 40 20.22 |
| .0991 | .09894 | | .99509 | | .99536 | 43,7 | .99786 | | 5 40 40.84 |
| .0992 | .09904 | | .99508 | | .99580 | 43,6 | .99786 | | 5 41 01.47 |
| .0993 | .09914 | | .99507 | | .99624 | 43,6 | .99786 | | 5 41 22.10 |
| .0994 | .09924 | | .99506 | | .99667 | 43,5 | .99785 | | 5 41 42.72 |
| 0.0995 | 0.09934 | 10,0 | 0.99505 | 1,0 | 8.99711 | 43,5 | 9.99785 | 0,4 | 5 42 03.35 |
| .0996 | .09944 | | .99504 | | .99754 | 43,5 | .99784 | | 5 42 23.97 |
| .0997 | .09953 | | .99503 | | .99798 | 43,4 | .99784 | | 5 42 44.60 |
| .0998 | .09963 | | .99502 | | .99841 | 43,4 | .99783 | | 5 43 05.23 |
| .0999 | .09973 | | .99501 | | .99884 | 43,3 | .99783 | | 5 43 25.85 |
| 0.1000 | 0.09983 | 10,0 | 0.99500 | 1,0 | 8.99928 | 43,3 | 9.99782 | 0,4 | 5 43 46.48 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.100 | 0.09983 | 99,5 | 0.99500 | 10,0 | 8.99928 | 432,8 | 9.99782 | 4,4 | 5° 43' 46".48 |
| .101 | .10083 | 99,5 | .99490 | 10,1 | 9.00358 | 428,5 | .99778 | 4,4 | 5 47 12.75 |
| .102 | .10182 | 99,5 | .99480 | 10,2 | .00785 | 424,3 | .99774 | 4,4 | 5 50 39.01 |
| .103 | .10282 | 99,5 | .99470 | 10,3 | .01207 | 420,2 | .99769 | 4,5 | 5 54 05.28 |
| .104 | .10381 | 99,5 | .99460 | 10,4 | .01625 | 416,1 | .99765 | 4,5 | 5 57 31.54 |
| 0.105 | 0.10481 | 99,4 | 0.99449 | 10,5 | 9.02039 | 412,1 | 9.99760 | 4,6 | 6 00 57.80 |
| .106 | .10580 | 99,4 | .99439 | 10,6 | .02449 | 408,2 | .99756 | 4,6 | 6 04 24.07 |
| .107 | .10680 | 99,4 | .99428 | 10,7 | .02855 | 404,3 | .99751 | 4,7 | 6 07 50.33 |
| .108 | .10779 | 99,4 | .99417 | 10,8 | .03258 | 400,6 | .99746 | 4,7 | 6 11 16.60 |
| .109 | .10878 | 99,4 | .99407 | 10,9 | .03657 | 396,9 | .99741 | 4,8 | 6 14 42.86 |
| 0.110 | 0.10978 | 99,4 | 0.99396 | 11,0 | 9.04052 | 393,2 | 9.99737 | 4,8 | 6 18 09.13 |
| .111 | .11077 | 99,4 | .99385 | 11,1 | .04443 | 389,6 | .99732 | 4,8 | 6 21 35.39 |
| .112 | .11177 | 99,4 | .99373 | 11,2 | .04831 | 386,1 | .99727 | 4,9 | 6 25 01.66 |
| .113 | .11276 | 99,4 | .99362 | 11,3 | .05215 | 382,7 | .99722 | 4,9 | 6 28 27.92 |
| .114 | .11375 | 99,4 | .99351 | 11,4 | .05596 | 379,3 | .99717 | 5,0 | 6 31 54.19 |
| 0.115 | 0.11475 | 99,3 | 0.99339 | 11,5 | 9.05974 | 376,0 | 9.99712 | 5,0 | 6 35 20.45 |
| .116 | .11574 | 99,3 | .99328 | 11,6 | .06348 | 372,7 | .99707 | 5,1 | 6 38 46.72 |
| .117 | .11673 | 99,3 | .99316 | 11,7 | .06719 | 369,5 | .99702 | 5,1 | 6 42 12.98 |
| .118 | .11773 | 99,3 | .99305 | 11,8 | .07087 | 366,3 | .99697 | 5,1 | 6 45 39.25 |
| .119 | .11872 | 99,3 | .99293 | 11,9 | .07452 | 363,2 | .99692 | 5,2 | 6 49 05.51 |
| 0.120 | 0.11971 | 99,3 | 0.99281 | 12,0 | 9.07814 | 360,2 | 9.99687 | 5,2 | 6 52 31.78 |
| .121 | .12070 | 99,3 | .99269 | 12,1 | .08173 | 357,2 | .99681 | 5,3 | 6 55 58.04 |
| .122 | .12170 | 99,3 | .99257 | 12,2 | .08528 | 354,2 | .99676 | 5,3 | 6 59 24.31 |
| .123 | .12269 | 99,2 | .99245 | 12,3 | .08881 | 351,3 | .99671 | 5,4 | 7 02 50.57 |
| .124 | .12368 | 99,2 | .99232 | 12,4 | .09231 | 348,4 | .99665 | 5,4 | 7 06 16.84 |
| 0.125 | 0.12467 | 99,2 | 0.99220 | 12,5 | 9.09578 | 345,6 | 9.99660 | 5,5 | 7 09 43.10 |
| .126 | .12567 | 99,2 | .99207 | 12,6 | .09922 | 342,9 | .99654 | 5,5 | 7 13 09.37 |
| .127 | .12666 | 99,2 | .99195 | 12,7 | .10264 | 340,1 | .99649 | 5,5 | 7 16 35.63 |
| .128 | .12765 | 99,2 | .99182 | 12,8 | .10602 | 337,4 | .99643 | 5,6 | 7 20 01.90 |
| .129 | .12864 | 99,2 | .99169 | 12,9 | .10938 | 334,8 | .99638 | 5,6 | 7 23 28.16 |
| 0.130 | 0.12963 | 99,2 | 0.99156 | 13,0 | 9.11272 | 332,2 | 9.99632 | 5,7 | 7 26 54.42 |
| .131 | .13063 | 99,1 | .99143 | 13,1 | .11603 | 329,6 | .99626 | 5,7 | 7 30 20.69 |
| .132 | .13162 | 99,1 | .99130 | 13,2 | .11931 | 327,1 | .99621 | 5,8 | 7 33 46.95 |
| .133 | .13261 | 99,1 | .99117 | 13,3 | .12257 | 324,6 | .99615 | 5,8 | 7 37 13.22 |
| .134 | .13360 | 99,1 | .99104 | 13,4 | .12580 | 322,2 | .99609 | 5,9 | 7 40 39.48 |
| 0.135 | 0.13459 | 99,1 | 0.99090 | 13,5 | 9.12901 | 319,7 | 9.99603 | 5,9 | 7 44 05.75 |
| .136 | .13558 | 99,1 | .99077 | 13,6 | .13220 | 317,4 | .99597 | 5,9 | 7 47 32.01 |
| .137 | .13657 | 99,1 | .99063 | 13,7 | .13536 | 315,0 | .99591 | 6,0 | 7 50 58.28 |
| .138 | .13756 | 99,0 | .99049 | 13,8 | .13850 | 312,7 | .99585 | 6,0 | 7 54 24.54 |
| .139 | .13855 | 99,0 | .99036 | 13,9 | .14162 | 310,4 | .99579 | 6,1 | 7 57 50.81 |
| 0.140 | 0.13954 | 99,0 | 0.99022 | 14,0 | 9.14471 | 308,2 | 9.99573 | 6,1 | 8 01 17.07 |
| .141 | .14053 | 99,0 | .99008 | 14,1 | .14778 | 306,0 | .99567 | 6,2 | 8 04 43.34 |
| .142 | .14152 | 99,0 | .98993 | 14,2 | .15083 | 303,8 | .99561 | 6,2 | 8 08 09.60 |
| .143 | .14251 | 99,0 | .98979 | 14,3 | .15385 | 301,6 | .99554 | 6,3 | 8 11 35.87 |
| .144 | .14350 | 99,0 | .98965 | 14,4 | .15686 | 299,5 | .99548 | 6,3 | 8 15 02.13 |
| 0.145 | 0.14449 | 99,0 | 0.98951 | 14,4 | 9.15985 | 297,4 | 9.99542 | 6,3 | 8 18 28.40 |
| .146 | .14548 | 98,9 | .98936 | 14,5 | .16281 | 295,3 | .99535 | 6,4 | 8 21 54.66 |
| .147 | .14647 | 98,9 | .98921 | 14,6 | .16575 | 293,3 | .99529 | 6,4 | 8 25 20.93 |
| .148 | .14746 | 98,9 | .98907 | 14,7 | .16868 | 291,3 | .99523 | 6,5 | 8 28 47.19 |
| .149 | .14845 | 98,9 | .98892 | 14,8 | .17158 | 289,3 | .99516 | 6,5 | 8 32 13.46 |
| 0.150 | 0.14944 | 98,9 | 0.98877 | 14,9 | 9.17446 | 287,4 | 9.99510 | 6,6 | 8 35 39.72 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|--------------|
| 0.150 | 0.14944 | 98,9 | 0.98877 | 14,9 | 9.17446 | 287,4 | 9.99510 | 6,6 | 8° 35' 39.72 |
| .151 | .15043 | 98,9 | .98862 | 15,0 | .17733 | 285,4 | .99503 | 6,6 | 8 39 05.99 |
| .152 | .15142 | 98,8 | .98847 | 15,1 | .18017 | 283,5 | .99496 | 6,7 | 8 42 32.25 |
| .153 | .15240 | 98,8 | .98832 | 15,2 | .18300 | 281,6 | .99490 | 6,7 | 8 45 58.52 |
| .154 | .15339 | 98,8 | .98817 | 15,3 | .18580 | 279,8 | .99483 | 6,7 | 8 49 24.78 |
| 0.155 | 0.15438 | 98,8 | 0.98801 | 15,4 | 9.18859 | 277,9 | 9.99476 | 6,8 | 8 52 51.04 |
| .156 | .15537 | 98,8 | .98786 | 15,5 | .19136 | 276,1 | .99469 | 6,8 | 8 56 17.31 |
| .157 | .15636 | 98,8 | .98770 | 15,6 | .19411 | 274,3 | .99463 | 6,9 | 8 59 43.57 |
| .158 | .15734 | 98,8 | .98754 | 15,7 | .19685 | 272,6 | .99456 | 6,9 | 9 03 09.84 |
| .159 | .15833 | 98,7 | .98739 | 15,8 | .19957 | 270,8 | .99449 | 7,0 | 9 06 36.10 |
| 0.160 | 0.15932 | 98,7 | 0.98723 | 15,9 | 9.20227 | 269,1 | 9.99442 | 7,0 | 9 10 02.37 |
| .161 | .16031 | 98,7 | .98707 | 16,0 | .20495 | 267,4 | .99435 | 7,1 | 9 13 28.63 |
| .162 | .16129 | 98,7 | .98691 | 16,1 | .20761 | 265,7 | .99428 | 7,1 | 9 16 54.90 |
| .163 | .16228 | 98,7 | .98674 | 16,2 | .21026 | 264,1 | .99420 | 7,1 | 9 20 21.16 |
| .164 | .16327 | 98,7 | .98658 | 16,3 | .21290 | 262,4 | .99413 | 7,2 | 9 23 47.43 |
| 0.165 | 0.16425 | 98,6 | 0.98642 | 16,4 | 9.21551 | 260,8 | 9.99406 | 7,2 | 9 27 13.69 |
| .166 | .16524 | 98,6 | .98625 | 16,5 | .21811 | 259,2 | .99399 | 7,3 | 9 30 39.96 |
| .167 | .16622 | 98,6 | .98609 | 16,6 | .22070 | 257,6 | .99392 | 7,3 | 9 34 06.22 |
| .168 | .16721 | 98,6 | .98592 | 16,7 | .22326 | 256,1 | .99384 | 7,4 | 9 37 32.49 |
| .169 | .16820 | 98,6 | .98575 | 16,8 | .22582 | 254,5 | .99377 | 7,4 | 9 40 58.75 |
| 0.170 | 0.16918 | 98,6 | 0.98558 | 16,9 | 9.22836 | 253,0 | 9.99369 | 7,5 | 9 44 25.02 |
| .171 | .17017 | 98,5 | .98542 | 17,0 | .23088 | 251,5 | .99362 | 7,5 | 9 47 51.28 |
| .172 | .17115 | 98,5 | .98524 | 17,1 | .23338 | 250,0 | .99354 | 7,5 | 9 51 17.55 |
| .173 | .17214 | 98,5 | .98507 | 17,2 | .23588 | 248,5 | .99347 | 7,6 | 9 54 43.81 |
| .174 | .17312 | 98,5 | .98490 | 17,3 | .23836 | 247,1 | .99339 | 7,6 | 9 58 10.08 |
| 0.175 | 0.17411 | 98,5 | 0.98473 | 17,4 | 9.24082 | 245,6 | 9.99332 | 7,7 | 10 01 36.34 |
| .176 | .17509 | 98,5 | .98455 | 17,5 | .24327 | 244,2 | .99324 | 7,7 | 10 05 02.61 |
| .177 | .17608 | 98,4 | .98438 | 17,6 | .24570 | 242,8 | .99316 | 7,8 | 10 08 28.87 |
| .178 | .17706 | 98,4 | .98420 | 17,7 | .24812 | 241,4 | .99308 | 7,8 | 10 11 55.14 |
| .179 | .17805 | 98,4 | .98402 | 17,8 | .25053 | 240,0 | .99300 | 7,9 | 10 15 21.40 |
| 0.180 | 0.17903 | 98,4 | 0.98384 | 17,9 | 9.25292 | 238,7 | 9.99293 | 7,9 | 10 18 47.67 |
| .181 | .18001 | 98,4 | .98366 | 18,0 | .25530 | 237,3 | .99285 | 7,9 | 10 22 13.93 |
| .182 | .18100 | 98,3 | .98348 | 18,1 | .25767 | 236,0 | .99277 | 8,0 | 10 25 40.19 |
| .183 | .18198 | 98,3 | .98330 | 18,2 | .26002 | 234,7 | .99269 | 8,0 | 10 29 06.46 |
| .184 | .18296 | 98,3 | .98312 | 18,3 | .26236 | 233,4 | .99261 | 8,1 | 10 32 32.72 |
| 0.185 | 0.18395 | 98,3 | 0.98294 | 18,4 | 9.26469 | 232,1 | 9.99253 | 8,1 | 10 35 58.99 |
| .186 | .18493 | 98,3 | .98275 | 18,5 | .26701 | 230,8 | .99244 | 8,2 | 10 39 25.25 |
| .187 | .18591 | 98,3 | .98257 | 18,6 | .26931 | 229,5 | .99236 | 8,2 | 10 42 51.52 |
| .188 | .18689 | 98,2 | .98238 | 18,7 | .27160 | 228,3 | .99228 | 8,3 | 10 46 17.78 |
| .189 | .18788 | 98,2 | .98219 | 18,8 | .27387 | 227,0 | .99220 | 8,3 | 10 49 44.05 |
| 0.190 | 0.18886 | 98,2 | 0.98200 | 18,9 | 9.27614 | 225,8 | 9.99211 | 8,4 | 10 53 10.31 |
| .191 | .18984 | 98,2 | .98181 | 19,0 | .27839 | 224,6 | .99203 | 8,4 | 10 56 36.58 |
| .192 | .19082 | 98,2 | .98162 | 19,1 | .28063 | 223,4 | .99195 | 8,4 | 11 00 02.84 |
| .193 | .19180 | 98,1 | .98143 | 19,2 | .28286 | 222,2 | .99186 | 8,5 | 11 03 29.11 |
| .194 | .19279 | 98,1 | .98124 | 19,3 | .28507 | 221,0 | .99178 | 8,5 | 11 06 55.37 |
| 0.195 | 0.19377 | 98,1 | 0.98105 | 19,4 | 9.28728 | 219,9 | 9.99169 | 8,6 | 11 10 21.64 |
| .196 | .19475 | 98,1 | .98085 | 19,5 | .28947 | 218,7 | .99160 | 8,6 | 11 13 47.90 |
| .197 | .19573 | 98,1 | .98066 | 19,6 | .29165 | 217,6 | .99152 | 8,7 | 11 17 14.17 |
| .198 | .19671 | 98,0 | .98046 | 19,7 | .29382 | 216,5 | .99143 | 8,7 | 11 20 40.43 |
| .199 | .19769 | 98,0 | .98026 | 19,8 | .29598 | 215,3 | .99134 | 8,8 | 11 24 06.70 |
| 0.200 | 0.19867 | 98,0 | 0.98007 | 19,9 | 9.29813 | 214,2 | 9.99126 | 8,8 | 11 27 32.96 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|-------------|
| 0.200 | 0.19867 | 98,0 | 0.98007 | 19,9 | 9.29813 | 214,2 | 9.99126 | 8,8 | 11 27 32.96 |
| .201 | .19965 | 98,0 | .97987 | 20,0 | .30027 | 213,1 | .99117 | 8,8 | 11 30 59.23 |
| .202 | .20063 | 98,0 | .97967 | 20,1 | .30239 | 212,1 | .99108 | 8,9 | 11 34 25.49 |
| .203 | .20161 | 97,9 | .97947 | 20,2 | .30451 | 211,0 | .99099 | 8,9 | 11 37 51.76 |
| .204 | .20259 | 97,9 | .97926 | 20,3 | .30661 | 209,9 | .99090 | 9,0 | 11 41 18.02 |
| 0.205 | 0.20357 | 97,9 | 0.97906 | 20,4 | 9.30871 | 208,9 | 9.99081 | 9,0 | 11 44 44.29 |
| .206 | .20455 | 97,9 | .97886 | 20,5 | .31079 | 207,8 | .99072 | 9,1 | 11 48 10.55 |
| .207 | .20552 | 97,9 | .97865 | 20,6 | .31286 | 206,8 | .99063 | 9,1 | 11 51 36.81 |
| .208 | .20650 | 97,8 | .97845 | 20,7 | .31493 | 205,8 | .99054 | 9,2 | 11 55 03.08 |
| .209 | .20748 | 97,8 | .97824 | 20,7 | .31698 | 204,8 | .99044 | 9,2 | 11 58 29.34 |
| 0.210 | 0.20846 | 97,8 | 0.97803 | 20,8 | 9.31902 | 203,8 | 9.99035 | 9,3 | 12 01 55.61 |
| .211 | .20944 | 97,8 | .97782 | 20,9 | .32106 | 202,8 | .99026 | 9,3 | 12 05 21.87 |
| .212 | .21042 | 97,8 | .97761 | 21,0 | .32308 | 201,8 | .99017 | 9,3 | 12 08 48.14 |
| .213 | .21139 | 97,7 | .97740 | 21,1 | .32509 | 200,8 | .99007 | 9,4 | 12 12 14.40 |
| .214 | .21237 | 97,7 | .97719 | 21,2 | .32709 | 199,8 | .98998 | 9,4 | 12 15 40.67 |
| 0.215 | 0.21335 | 97,7 | 0.97698 | 21,3 | 9.32909 | 198,9 | 9.98988 | 9,5 | 12 19 06.93 |
| .216 | .21432 | 97,7 | .97676 | 21,4 | .33107 | 197,9 | .98979 | 9,5 | 12 22 33.20 |
| .217 | .21530 | 97,7 | .97655 | 21,5 | .33305 | 197,0 | .98969 | 9,6 | 12 25 59.46 |
| .218 | .21628 | 97,6 | .97633 | 21,6 | .33501 | 196,0 | .98960 | 9,6 | 12 29 25.73 |
| .219 | .21725 | 97,6 | .97612 | 21,7 | .33697 | 195,1 | .98950 | 9,7 | 12 32 51.99 |
| 0.220 | 0.21823 | 97,6 | 0.97590 | 21,8 | 9.33891 | 194,2 | 9.98940 | 9,7 | 12 36 18.26 |
| .221 | .21921 | 97,6 | .97568 | 21,9 | .34085 | 193,3 | .98931 | 9,8 | 12 39 44.52 |
| .222 | .22018 | 97,5 | .97546 | 22,0 | .34278 | 192,4 | .98921 | 9,8 | 12 43 10.79 |
| .223 | .22116 | 97,5 | .97524 | 22,1 | .34470 | 191,5 | .98911 | 9,8 | 12 46 37.05 |
| .224 | .22213 | 97,5 | .97502 | 22,2 | .34661 | 190,6 | .98901 | 9,9 | 12 50 03.32 |
| 0.225 | 0.22311 | 97,5 | 0.97479 | 22,3 | 9.34851 | 189,8 | 9.98891 | 9,9 | 12 53 29.58 |
| .226 | .22408 | 97,5 | .97457 | 22,4 | .35041 | 188,9 | .98881 | 10,0 | 12 56 55.85 |
| .227 | .22506 | 97,4 | .97435 | 22,5 | .35229 | 188,0 | .98871 | 10,0 | 13 00 22.11 |
| .228 | .22603 | 97,4 | .97412 | 22,6 | .35417 | 187,2 | .98861 | 10,1 | 13 03 48.38 |
| .229 | .22700 | 97,4 | .97389 | 22,7 | .35603 | 186,3 | .98851 | 10,1 | 13 07 14.64 |
| 0.230 | 0.22798 | 97,4 | 0.97367 | 22,8 | 9.35789 | 185,5 | 9.98841 | 10,2 | 13 10 40.91 |
| .231 | .22895 | 97,3 | .97344 | 22,9 | .35974 | 184,7 | .98831 | 10,2 | 13 14 07.17 |
| .232 | .22992 | 97,3 | .97321 | 23,0 | .36158 | 183,8 | .98821 | 10,3 | 13 17 33.44 |
| .233 | .23090 | 97,3 | .97298 | 23,1 | .36342 | 183,0 | .98810 | 10,3 | 13 20 59.70 |
| .234 | .23187 | 97,3 | .97275 | 23,2 | .36525 | 182,2 | .98800 | 10,4 | 13 24 25.96 |
| 0.235 | 0.23284 | 97,3 | 0.97251 | 23,3 | 9.36706 | 181,4 | 9.98790 | 10,4 | 13 27 52.23 |
| .236 | .23382 | 97,2 | .97228 | 23,4 | .36887 | 180,6 | .98779 | 10,4 | 13 31 18.49 |
| .237 | .23479 | 97,2 | .97205 | 23,5 | .37068 | 179,8 | .98769 | 10,5 | 13 34 44.76 |
| .238 | .23576 | 97,2 | .97181 | 23,6 | .37247 | 179,0 | .98758 | 10,5 | 13 38 11.02 |
| .239 | .23673 | 97,2 | .97158 | 23,7 | .37426 | 178,2 | .98748 | 10,6 | 13 41 37.29 |
| 0.240 | 0.23770 | 97,1 | 0.97134 | 23,8 | 9.37603 | 177,5 | 9.98737 | 10,6 | 13 45 03.55 |
| .241 | .23867 | 97,1 | .97110 | 23,9 | .37780 | 176,7 | .98726 | 10,7 | 13 48 29.82 |
| .242 | .23964 | 97,1 | .97086 | 24,0 | .37957 | 175,9 | .98716 | 10,7 | 13 51 56.08 |
| .243 | .24062 | 97,1 | .97062 | 24,1 | .38132 | 175,2 | .98705 | 10,8 | 13 55 22.35 |
| .244 | .24159 | 97,0 | .97038 | 24,2 | .38307 | 174,4 | .98694 | 10,8 | 13 58 48.61 |
| 0.245 | 0.24256 | 97,0 | 0.97014 | 24,3 | 9.38481 | 173,7 | 9.98683 | 10,9 | 14 02 14.88 |
| .246 | .24353 | 97,0 | .96989 | 24,4 | .38655 | 173,0 | .98672 | 10,9 | 14 05 41.14 |
| .247 | .24450 | 97,0 | .96965 | 24,4 | .38827 | 172,2 | .98662 | 11,0 | 14 09 07.41 |
| .248 | .24547 | 96,9 | .96941 | 24,5 | .38999 | 171,5 | .98651 | 11,0 | 14 12 33.67 |
| .249 | .24643 | 96,9 | .96916 | 24,6 | .39170 | 170,8 | .98640 | 11,0 | 14 15 59.94 |
| 0.250 | 0.24740 | 96,9 | 0.96891 | 24,7 | 9.39341 | 170,1 | 9.98628 | 11,1 | 14 19 26.20 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|-------------|
| 0.250 | 0.24740 | 96,9 | 0.96891 | 24,7 | 9.39341 | 170,1 | 9.98628 | 11,1 | 14 19 26.20 |
| .251 | .24837 | 96,9 | .96866 | 24,8 | .39510 | 169,4 | .98617 | 11,1 | 14 22 52.47 |
| .252 | .24934 | 96,8 | .96842 | 24,9 | .39679 | 168,7 | .98606 | 11,2 | 14 26 18.73 |
| .253 | .25031 | 96,8 | .96817 | 25,0 | .39848 | 168,0 | .98595 | 11,2 | 14 29 45.00 |
| .254 | .25128 | 96,8 | .96792 | 25,1 | .40015 | 167,3 | .98584 | 11,3 | 14 33 11.26 |
| 0.255 | 0.25225 | 96,8 | 0.96766 | 25,2 | 9.40182 | 166,6 | 9.98572 | 11,3 | 14 36 37.53 |
| .256 | .25321 | 96,7 | .96741 | 25,3 | .40349 | 165,9 | .98561 | 11,4 | 14 40 03.79 |
| .257 | .25418 | 96,7 | .96716 | 25,4 | .40514 | 165,2 | .98550 | 11,4 | 14 43 30.06 |
| .258 | .25515 | 96,7 | .96690 | 25,5 | .40679 | 164,6 | .98538 | 11,5 | 14 46 56.32 |
| .259 | .25611 | 96,7 | .96665 | 25,6 | .40843 | 163,9 | .98527 | 11,5 | 14 50 22.58 |
| 0.260 | 0.25708 | 96,6 | 0.96639 | 25,7 | 9.41007 | 163,3 | 9.98515 | 11,6 | 14 53 48.85 |
| .261 | .25805 | 96,6 | .96613 | 25,8 | .41170 | 162,6 | .98504 | 11,6 | 14 57 15.11 |
| .262 | .25901 | 96,6 | .96587 | 25,9 | .41332 | 162,0 | .98492 | 11,6 | 15 00 41.38 |
| .263 | .25998 | 96,6 | .96561 | 26,0 | .41494 | 161,3 | .98480 | 11,7 | 15 04 07.64 |
| .264 | .26094 | 96,5 | .96535 | 26,1 | .41655 | 160,7 | .98469 | 11,7 | 15 07 33.91 |
| 0.265 | 0.26191 | 96,5 | 0.96509 | 26,2 | 9.41815 | 160,0 | 9.98457 | 11,8 | 15 11 00.17 |
| .266 | .26287 | 96,5 | .96483 | 26,3 | .41975 | 159,4 | .98445 | 11,8 | 15 14 26.44 |
| .267 | .26384 | 96,5 | .96457 | 26,4 | .42134 | 158,8 | .98433 | 11,9 | 15 17 52.70 |
| .268 | .26480 | 96,4 | .96430 | 26,5 | .42292 | 158,2 | .98421 | 11,9 | 15 21 18.97 |
| .269 | .26577 | 96,4 | .96404 | 26,6 | .42450 | 157,5 | .98409 | 12,0 | 15 24 45.23 |
| 0.270 | 0.26673 | 96,4 | 0.96377 | 26,7 | 9.42607 | 156,9 | 9.98397 | 12,0 | 15 28 11.50 |
| .271 | .26770 | 96,4 | .96350 | 26,8 | .42764 | 156,3 | .98385 | 12,1 | 15 31 37.76 |
| .272 | .26866 | 96,3 | .96324 | 26,9 | .42920 | 155,7 | .98373 | 12,1 | 15 35 04.03 |
| .273 | .26962 | 96,3 | .96297 | 27,0 | .43075 | 155,1 | .98361 | 12,2 | 15 38 30.29 |
| .274 | .27058 | 96,3 | .96270 | 27,1 | .43230 | 154,5 | .98349 | 12,2 | 15 41 56.56 |
| 0.275 | 0.27155 | 96,2 | 0.96243 | 27,2 | 9.43384 | 153,9 | 9.98337 | 12,3 | 15 45 22.82 |
| .276 | .27251 | 96,2 | .96215 | 27,3 | .43538 | 153,3 | .98324 | 12,3 | 15 48 49.09 |
| .277 | .27347 | 96,2 | .96188 | 27,3 | .43691 | 152,8 | .98312 | 12,3 | 15 52 15.35 |
| .278 | .27443 | 96,2 | .96161 | 27,4 | .43844 | 152,2 | .98300 | 12,4 | 15 55 41.62 |
| .279 | .27539 | 96,1 | .96133 | 27,5 | .43996 | 151,6 | .98287 | 12,4 | 15 59 07.88 |
| 0.280 | 0.27636 | 96,1 | 0.96106 | 27,6 | 9.44147 | 151,0 | 9.98275 | 12,5 | 16 02 34.15 |
| .281 | .27732 | 96,1 | .96078 | 27,7 | .44298 | 150,5 | .98262 | 12,5 | 16 06 00.41 |
| .282 | .27828 | 96,1 | .96050 | 27,8 | .44448 | 149,9 | .98250 | 12,6 | 16 09 26.68 |
| .283 | .27924 | 96,0 | .96022 | 27,9 | .44597 | 149,3 | .98237 | 12,6 | 16 12 52.94 |
| .284 | .28020 | 96,0 | .95994 | 28,0 | .44746 | 148,8 | .98225 | 12,7 | 16 16 19.20 |
| 0.285 | 0.28116 | 96,0 | 0.95966 | 28,1 | 9.44895 | 148,2 | 9.98212 | 12,7 | 16 19 45.47 |
| .286 | .28212 | 95,9 | .95938 | 28,2 | .45043 | 147,7 | .98199 | 12,8 | 16 23 11.73 |
| .287 | .28308 | 95,9 | .95910 | 28,3 | .45190 | 147,1 | .98186 | 12,8 | 16 26 38.00 |
| .288 | .28404 | 95,9 | .95881 | 28,4 | .45337 | 146,6 | .98173 | 12,9 | 16 30 04.26 |
| .289 | .28499 | 95,9 | .95853 | 28,5 | .45484 | 146,1 | .98161 | 12,9 | 16 33 30.53 |
| 0.290 | 0.28595 | 95,8 | 0.95824 | 28,6 | 9.45629 | 145,5 | 9.98148 | 13,0 | 16 36 56.79 |
| .291 | .28691 | 95,8 | .95796 | 28,7 | .45775 | 145,0 | .98135 | 13,0 | 16 40 23.06 |
| .292 | .28787 | 95,8 | .95767 | 28,8 | .45919 | 144,5 | .98122 | 13,1 | 16 43 49.32 |
| .293 | .28883 | 95,7 | .95738 | 28,9 | .46064 | 144,0 | .98109 | 13,1 | 16 47 15.59 |
| .294 | .28978 | 95,7 | .95709 | 29,0 | .46207 | 143,4 | .98095 | 13,1 | 16 50 41.85 |
| 0.295 | 0.29074 | 95,7 | 0.95680 | 29,1 | 9.46350 | 142,9 | 9.98082 | 13,2 | 16 54 08.12 |
| .296 | .29170 | 95,7 | .95651 | 29,2 | .46493 | 142,4 | .98069 | 13,2 | 16 57 34.38 |
| .297 | .29265 | 95,6 | .95622 | 29,3 | .46635 | 141,9 | .98056 | 13,3 | 17 01 00.65 |
| .298 | .29361 | 95,6 | .95593 | 29,4 | .46777 | 141,4 | .98042 | 13,3 | 17 04 26.91 |
| .299 | .29456 | 95,6 | .95563 | 29,5 | .46918 | 140,9 | .98029 | 13,4 | 17 07 53.18 |
| 0.300 | 0.29552 | 95,5 | 0.95534 | 29,6 | 9.47059 | 140,4 | 9.98016 | 13,4 | 17 11 19.44 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|----------------|
| 0.300 | 0.29552 | 95.5 | 0.95534 | 29.6 | 9.47059 | 140.4 | 9.98016 | 13.4 | 17° 11' 19.44" |
| .301 | .29048 | 95.5 | .95504 | 29.6 | .47199 | 139.9 | .98002 | 13.5 | 17 14 45.71 |
| .302 | .29743 | 95.5 | .95474 | 29.7 | .47339 | 139.4 | .97989 | 13.5 | 17 18 11.97 |
| .303 | .29838 | 95.4 | .95445 | 29.8 | .47478 | 138.9 | .97975 | 13.6 | 17 21 38.24 |
| .304 | .29934 | 95.4 | .95415 | 29.9 | .47616 | 138.4 | .97962 | 13.6 | 17 25 04.50 |
| 0.305 | 0.30029 | 95.4 | 0.95385 | 30.0 | 9.47755 | 137.9 | 9.97948 | 13.7 | 17 28 30.77 |
| .306 | .30125 | 95.4 | .95355 | 30.1 | .47892 | 137.5 | .97934 | 13.7 | 17 31 57.03 |
| .307 | .30220 | 95.3 | .95324 | 30.2 | .48029 | 137.0 | .97920 | 13.8 | 17 35 23.30 |
| .308 | .30315 | 95.3 | .95294 | 30.3 | .48166 | 136.5 | .97907 | 13.8 | 17 38 49.56 |
| .309 | .30411 | 95.3 | .95264 | 30.4 | .48303 | 136.0 | .97893 | 13.9 | 17 42 15.83 |
| 0.310 | 0.30506 | 95.2 | 0.95233 | 30.5 | 9.48438 | 135.6 | 9.97879 | 13.9 | 17 45 42.09 |
| .311 | .30601 | 95.2 | .95203 | 30.6 | .48574 | 135.1 | .97865 | 14.0 | 17 49 08.35 |
| .312 | .30696 | 95.2 | .95172 | 30.7 | .48709 | 134.7 | .97851 | 14.0 | 17 52 34.62 |
| .313 | .30791 | 95.1 | .95141 | 30.8 | .48843 | 134.2 | .97837 | 14.1 | 17 56 00.88 |
| .314 | .30887 | 95.1 | .95111 | 30.9 | .48977 | 133.7 | .97823 | 14.1 | 17 59 27.15 |
| 0.315 | 0.30982 | 95.1 | 0.95080 | 31.0 | 9.49110 | 133.3 | 9.97809 | 14.2 | 18 02 53.41 |
| .316 | .31077 | 95.0 | .95049 | 31.1 | .49244 | 132.8 | .97795 | 14.2 | 18 06 19.68 |
| .317 | .31172 | 95.0 | .95017 | 31.2 | .49376 | 132.4 | .97780 | 14.2 | 18 09 45.94 |
| .318 | .31267 | 95.0 | .94986 | 31.3 | .49508 | 131.9 | .97766 | 14.3 | 18 13 12.21 |
| .319 | .31362 | 95.0 | .94955 | 31.4 | .49640 | 131.5 | .97752 | 14.3 | 18 16 38.47 |
| 0.320 | 0.31457 | 94.9 | 0.94924 | 31.5 | 9.49771 | 131.1 | 9.97737 | 14.4 | 18 20 04.74 |
| .321 | .31552 | 94.9 | .94892 | 31.6 | .49902 | 130.6 | .97723 | 14.4 | 18 23 31.00 |
| .322 | .31646 | 94.9 | .94860 | 31.6 | .50032 | 130.2 | .97709 | 14.5 | 18 26 57.27 |
| .323 | .31741 | 94.8 | .94829 | 31.7 | .50162 | 129.7 | .97694 | 14.5 | 18 30 23.53 |
| .324 | .31836 | 94.8 | .94797 | 31.8 | .50292 | 129.3 | .97679 | 14.6 | 18 33 49.80 |
| 0.325 | 0.31931 | 94.8 | 0.94765 | 31.9 | 9.50421 | 128.9 | 9.97665 | 14.6 | 18 37 16.06 |
| .326 | .32026 | 94.7 | .94733 | 32.0 | .50550 | 128.5 | .97650 | 14.7 | 18 40 42.33 |
| .327 | .32120 | 94.7 | .94701 | 32.1 | .50678 | 128.0 | .97635 | 14.7 | 18 44 08.59 |
| .328 | .32215 | 94.7 | .94669 | 32.2 | .50806 | 127.6 | .97621 | 14.8 | 18 47 34.86 |
| .329 | .32310 | 94.6 | .94637 | 32.3 | .50933 | 127.2 | .97606 | 14.8 | 18 51 01.12 |
| 0.330 | 0.32404 | 94.6 | 0.94604 | 32.4 | 9.51060 | 126.8 | 9.97591 | 14.9 | 18 54 27.39 |
| .331 | .32499 | 94.6 | .94572 | 32.5 | .51187 | 126.4 | .97576 | 14.9 | 18 57 53.65 |
| .332 | .32593 | 94.5 | .94539 | 32.6 | .51313 | 126.0 | .97561 | 15.0 | 19 01 19.92 |
| .333 | .32688 | 94.5 | .94507 | 32.7 | .51439 | 125.6 | .97546 | 15.0 | 19 04 46.18 |
| .334 | .32782 | 94.5 | .94474 | 32.8 | .51564 | 125.2 | .97531 | 15.1 | 19 08 12.45 |
| 0.335 | 0.32877 | 94.4 | 0.94441 | 32.9 | 9.51689 | 124.8 | 9.97516 | 15.1 | 19 11 38.71 |
| .336 | .32971 | 94.4 | .94408 | 33.0 | .51814 | 124.4 | .97501 | 15.2 | 19 15 04.97 |
| .337 | .33066 | 94.4 | .94375 | 33.1 | .51938 | 124.0 | .97486 | 15.2 | 19 18 31.24 |
| .338 | .33160 | 94.3 | .94342 | 33.2 | .52062 | 123.6 | .97470 | 15.3 | 19 21 57.50 |
| .339 | .33254 | 94.3 | .94309 | 33.3 | .52185 | 123.2 | .97455 | 15.3 | 19 25 23.77 |
| 0.340 | 0.33349 | 94.3 | 0.94275 | 33.3 | 9.52308 | 122.8 | 9.97440 | 15.4 | 19 28 50.03 |
| .341 | .33443 | 94.2 | .94242 | 33.4 | .52430 | 122.4 | .97424 | 15.4 | 19 32 16.30 |
| .342 | .33537 | 94.2 | .94209 | 33.5 | .52553 | 122.0 | .97409 | 15.5 | 19 35 42.56 |
| .343 | .33631 | 94.2 | .94175 | 33.6 | .52674 | 121.6 | .97394 | 15.5 | 19 39 08.83 |
| .344 | .33726 | 94.1 | .94141 | 33.7 | .52796 | 121.2 | .97378 | 15.6 | 19 42 35.09 |
| 0.345 | 0.33820 | 94.1 | 0.94108 | 33.8 | 9.52917 | 120.8 | 9.97362 | 15.6 | 19 46 01.36 |
| .346 | .33914 | 94.1 | .94074 | 33.9 | .53038 | 120.5 | .97347 | 15.7 | 19 49 27.62 |
| .347 | .34008 | 94.0 | .94040 | 34.0 | .53158 | 120.1 | .97331 | 15.7 | 19 52 53.89 |
| .348 | .34102 | 94.0 | .94006 | 34.1 | .53278 | 119.7 | .97315 | 15.8 | 19 56 20.15 |
| .349 | .34196 | 94.0 | .93972 | 34.2 | .53397 | 119.3 | .97300 | 15.8 | 19 59 46.42 |
| 0.350 | 0.34290 | 93.9 | 0.93937 | 34.3 | 9.53516 | 119.0 | 9.97284 | 15.9 | 20 03 12.68 |
| u | -1 sin u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | $\sin u$ | $\omega F_0'$ | $\cos u$ | $\omega F_0'$ | $\log \sin u$ | $\omega F_0'$ | $\log \cos u$ | $\omega F_0'$ | u |
|-------|-----------|---------------|-----------|---------------|--------------------------|---------------|----------------|---------------|-------------|
| 0.350 | 0.34290 | 93,9 | 0.93937 | 34,3 | 9.53516 | 119,0 | 9.97284 | 15,9 | 20 03 12.08 |
| .351 | .34384 | 93,9 | .93903 | 34,4 | .53635 | 118,6 | .97268 | 15,9 | 20 05 38.95 |
| .352 | .34478 | 93,9 | .93869 | 34,5 | .53754 | 118,2 | .97252 | 16,0 | 20 10 05.21 |
| .353 | .34571 | 93,8 | .93834 | 34,6 | .53872 | 117,9 | .97236 | 16,0 | 20 13 31.48 |
| .354 | .34665 | 93,8 | .93799 | 34,7 | .53989 | 117,5 | .97220 | 16,1 | 20 16 57.74 |
| 0.355 | 0.34759 | 93,8 | 0.93765 | 34,8 | 9.54107 | 117,2 | 9.97204 | 16,1 | 20 20 24.01 |
| .356 | .34853 | 93,7 | .93730 | 34,9 | .54224 | 116,8 | .97188 | 16,1 | 20 23 50.27 |
| .357 | .34946 | 93,7 | .93695 | 34,9 | .54340 | 116,4 | .97172 | 16,2 | 20 27 16.54 |
| .358 | .35040 | 93,7 | .93660 | 35,0 | .54457 | 116,1 | .97155 | 16,2 | 20 30 42.80 |
| .359 | .35134 | 93,6 | .93625 | 35,1 | .54573 | 115,7 | .97139 | 16,3 | 20 34 09.07 |
| 0.360 | 0.35227 | 93,6 | 0.93590 | 35,2 | 9.54688 | 115,4 | 9.97123 | 16,3 | 20 37 35.33 |
| .361 | .35321 | 93,6 | .93554 | 35,3 | .54803 | 115,0 | .97106 | 16,4 | 20 41 01.60 |
| .362 | .35415 | 93,5 | .93519 | 35,4 | .54918 | 114,7 | .97090 | 16,4 | 20 44 27.85 |
| .363 | .35508 | 93,5 | .93484 | 35,5 | .55033 | 114,3 | .97074 | 16,5 | 20 47 54.12 |
| .364 | .35601 | 93,4 | .93448 | 35,6 | .55147 | 114,0 | .97057 | 16,5 | 20 51 20.39 |
| 0.365 | 0.35695 | 93,4 | 0.93412 | 35,7 | 9.55261 | 113,7 | 9.97040 | 16,6 | 20 54 46.65 |
| .366 | .35788 | 93,4 | .93377 | 35,8 | .55374 | 113,3 | .97024 | 16,6 | 20 58 12.92 |
| .367 | .35882 | 93,3 | .93341 | 35,9 | .55487 | 113,0 | .97007 | 16,7 | 21 01 39.18 |
| .368 | .35975 | 93,3 | .93305 | 36,0 | .55600 | 112,6 | .96990 | 16,7 | 21 05 05.45 |
| .369 | .36068 | 93,3 | .93269 | 36,1 | .55713 | 112,3 | .96974 | 16,8 | 21 08 31.71 |
| 0.370 | 0.36162 | 93,2 | 0.93233 | 36,2 | 9.55825 | 112,0 | 9.96957 | 16,8 | 21 11 57.98 |
| .371 | .36255 | 93,2 | .93197 | 36,3 | .55937 | 111,6 | .96940 | 16,9 | 21 15 24.24 |
| .372 | .36348 | 93,2 | .93160 | 36,3 | .56048 | 111,3 | .96923 | 16,9 | 21 18 50.51 |
| .373 | .36441 | 93,1 | .93124 | 36,4 | .56159 | 111,0 | .96906 | 17,0 | 21 22 16.77 |
| .374 | .36534 | 93,1 | .93087 | 36,5 | .56270 | 110,7 | .96889 | 17,0 | 21 25 43.04 |
| 0.375 | 0.36627 | 93,1 | 0.93051 | 36,6 | 9.56380 | 110,3 | 9.96872 | 17,1 | 21 29 09.30 |
| .376 | .36720 | 93,0 | .93014 | 36,7 | .56491 | 110,0 | .96855 | 17,1 | 21 32 35.57 |
| .377 | .36813 | 93,0 | .92977 | 36,8 | .56600 | 109,7 | .96838 | 17,2 | 21 36 01.83 |
| .378 | .36906 | 92,9 | .92940 | 36,9 | .56710 | 109,4 | .96820 | 17,2 | 21 39 28.10 |
| .379 | .36999 | 92,9 | .92904 | 37,0 | .56819 | 109,0 | .96803 | 17,3 | 21 42 54.36 |
| 0.380 | 0.37092 | 92,9 | 0.92866 | 37,1 | 9.56928 | 108,7 | 9.96786 | 17,3 | 21 46 20.63 |
| .381 | .37185 | 92,8 | .92829 | 37,2 | .57037 | 108,4 | .96769 | 17,4 | 21 49 46.89 |
| .382 | .37278 | 92,8 | .92792 | 37,3 | .57145 | 108,1 | .96751 | 17,4 | 21 53 13.16 |
| .383 | .37370 | 92,8 | .92755 | 37,4 | .57253 | 107,8 | .96734 | 17,5 | 21 56 39.42 |
| .384 | .37463 | 92,7 | .92717 | 37,5 | .57361 | 107,5 | .96716 | 17,5 | 22 00 05.69 |
| 0.385 | 0.37556 | 92,7 | 0.92680 | 37,6 | 9.57468 | 107,2 | 9.96699 | 17,6 | 22 03 31.95 |
| .386 | .37649 | 92,6 | .92642 | 37,6 | .57575 | 106,9 | .96681 | 17,6 | 22 06 58.22 |
| .387 | .37741 | 92,6 | .92605 | 37,7 | .57682 | 106,6 | .96663 | 17,7 | 22 10 24.48 |
| .388 | .37834 | 92,6 | .92567 | 37,8 | .57788 | 106,3 | .96646 | 17,8 | 22 13 50.74 |
| .389 | .37926 | 92,5 | .92529 | 37,9 | .57894 | 106,0 | .96628 | 17,8 | 22 17 17.01 |
| 0.390 | 0.38019 | 92,5 | 0.92491 | 38,0 | 9.58000 | 105,7 | 9.96610 | 17,9 | 22 20 43.27 |
| .391 | .38111 | 92,5 | .92453 | 38,1 | .58105 | 105,4 | .96592 | 17,9 | 22 24 09.54 |
| .392 | .38204 | 92,4 | .92415 | 38,2 | .58211 | 105,1 | .96574 | 18,0 | 22 27 35.80 |
| .393 | .38296 | 92,4 | .92376 | 38,3 | .58316 | 104,8 | .96556 | 18,0 | 22 31 02.07 |
| .394 | .38389 | 92,3 | .92338 | 38,4 | .58420 | 104,5 | .96538 | 18,1 | 22 34 28.33 |
| 0.395 | 0.38481 | 92,3 | 0.92300 | 38,5 | 9.58524 | 104,2 | 9.96520 | 18,1 | 22 37 54.60 |
| .396 | .38573 | 92,3 | .92261 | 38,6 | .58628 | 103,9 | .96502 | 18,2 | 22 41 20.86 |
| .397 | .38665 | 92,2 | .92223 | 38,7 | .58732 | 103,6 | .96484 | 18,2 | 22 44 47.13 |
| .398 | .38758 | 92,2 | .92184 | 38,8 | .58836 | 103,3 | .96465 | 18,3 | 22 48 13.39 |
| .399 | .38850 | 92,1 | .92145 | 38,8 | .58939 | 103,0 | .96447 | 18,3 | 22 51 39.66 |
| 0.400 | 0.38942 | 92,1 | 0.92106 | 38,9 | 9.59042 | 102,7 | 9.96429 | 18,4 | 22 55 05.92 |
| u | $\sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\log \frac{\sinh u}{u}$ | $\omega F_0'$ | $\log \cosh u$ | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|-------------|
| 0.400 | 0.38942 | 92,1 | 0.92106 | 38,9 | 9.59042 | 102,7 | 9.96429 | 18,4 | 22 55 05.92 |
| .401 | .39034 | 92,1 | .92067 | 39,0 | .59144 | 102,4 | .96410 | 18,4 | 22 58 32.19 |
| .402 | .39126 | 92,0 | .92028 | 39,1 | .59247 | 102,2 | .96392 | 18,5 | 23 01 58.45 |
| .403 | .39218 | 92,0 | .91989 | 39,2 | .59349 | 101,9 | .96374 | 18,5 | 23 05 24.72 |
| .404 | .39310 | 91,9 | .91950 | 39,3 | .59450 | 101,6 | .96355 | 18,6 | 23 08 50.98 |
| 0.405 | 0.39402 | 91,9 | 0.91910 | 39,4 | 9.59552 | 101,3 | 9.96336 | 18,6 | 23 12 17.25 |
| .406 | .39494 | 91,9 | .91871 | 39,5 | .59653 | 101,0 | .96318 | 18,7 | 23 15 43.51 |
| .407 | .39586 | 91,8 | .91831 | 39,6 | .59754 | 100,7 | .96299 | 18,7 | 23 19 09.78 |
| .408 | .39677 | 91,8 | .91792 | 39,7 | .59855 | 100,5 | .96280 | 18,8 | 23 22 36.04 |
| .409 | .39769 | 91,8 | .91752 | 39,8 | .59955 | 100,2 | .96262 | 18,8 | 23 26 02.31 |
| 0.410 | 0.39861 | 91,7 | 0.91712 | 39,9 | 9.60055 | 99,9 | 9.96243 | 18,9 | 23 29 28.57 |
| .411 | .39953 | 91,7 | .91672 | 40,0 | .60155 | 99,6 | .96224 | 18,9 | 23 32 54.84 |
| .412 | .40044 | 91,6 | .91632 | 40,0 | .60254 | 99,4 | .96205 | 19,0 | 23 36 21.10 |
| .413 | .40136 | 91,6 | .91592 | 40,1 | .60353 | 99,1 | .96186 | 19,0 | 23 39 47.36 |
| .414 | .40227 | 91,6 | .91552 | 40,2 | .60452 | 98,8 | .96167 | 19,1 | 23 43 13.63 |
| 0.415 | 0.40319 | 91,5 | 0.91512 | 40,3 | 9.60551 | 98,6 | 9.96148 | 19,1 | 23 46 39.89 |
| .416 | .40410 | 91,5 | .91471 | 40,4 | .60649 | 98,3 | .96128 | 19,2 | 23 50 06.16 |
| .417 | .40502 | 91,4 | .91431 | 40,5 | .60748 | 98,0 | .96109 | 19,2 | 23 53 32.42 |
| .418 | .40593 | 91,4 | .91390 | 40,6 | .60845 | 97,8 | .96090 | 19,3 | 23 56 58.69 |
| .419 | .40685 | 91,3 | .91350 | 40,7 | .60943 | 97,5 | .96071 | 19,3 | 24 00 24.95 |
| 0.420 | 0.40776 | 91,3 | 0.91309 | 40,8 | 9.61041 | 97,3 | 9.96051 | 19,4 | 24 03 51.22 |
| .421 | .40867 | 91,3 | .91268 | 40,9 | .61138 | 97,0 | .96032 | 19,4 | 24 07 17.48 |
| .422 | .40959 | 91,2 | .91227 | 41,0 | .61234 | 96,7 | .96012 | 19,5 | 24 10 43.75 |
| .423 | .41050 | 91,2 | .91186 | 41,0 | .61331 | 96,5 | .95993 | 19,6 | 24 14 10.01 |
| .424 | .41141 | 91,1 | .91145 | 41,1 | .61427 | 96,2 | .95973 | 19,6 | 24 17 36.28 |
| 0.425 | 0.41232 | 91,1 | 0.91104 | 41,2 | 9.61524 | 96,0 | 9.95954 | 19,7 | 24 21 02.54 |
| .426 | .41323 | 91,1 | .91063 | 41,3 | .61619 | 95,7 | .95934 | 19,7 | 24 24 28.81 |
| .427 | .41414 | 91,0 | .91021 | 41,4 | .61715 | 95,5 | .95914 | 19,8 | 24 27 55.07 |
| .428 | .41505 | 91,0 | .90980 | 41,5 | .61810 | 95,2 | .95894 | 19,8 | 24 31 21.34 |
| .429 | .41596 | 90,9 | .90938 | 41,6 | .61905 | 94,9 | .95875 | 19,9 | 24 34 47.60 |
| 0.430 | 0.41687 | 90,9 | 0.90897 | 41,7 | 9.62000 | 94,7 | 9.95855 | 19,9 | 24 38 13.87 |
| .431 | .41778 | 90,9 | .90855 | 41,8 | .62095 | 94,4 | .95835 | 20,0 | 24 41 40.13 |
| .432 | .41869 | 90,8 | .90813 | 41,9 | .62189 | 94,2 | .95815 | 20,0 | 24 45 06.40 |
| .433 | .41960 | 90,8 | .90771 | 42,0 | .62283 | 94,0 | .95795 | 20,1 | 24 48 32.66 |
| .434 | .42050 | 90,7 | .90729 | 42,1 | .62377 | 93,7 | .95775 | 20,1 | 24 51 58.93 |
| 0.435 | 0.42141 | 90,7 | 0.90687 | 42,1 | 9.62471 | 93,5 | 9.95755 | 20,2 | 24 55 25.19 |
| .436 | .42232 | 90,6 | .90645 | 42,2 | .62564 | 93,2 | .95734 | 20,2 | 24 58 51.46 |
| .437 | .42322 | 90,6 | .90603 | 42,3 | .62657 | 93,0 | .95714 | 20,3 | 25 02 17.72 |
| .438 | .42413 | 90,6 | .90560 | 42,4 | .62750 | 92,8 | .95694 | 20,3 | 25 05 43.99 |
| .439 | .42503 | 90,5 | .90518 | 42,5 | .62842 | 92,5 | .95673 | 20,4 | 25 09 10.25 |
| 0.440 | 0.42594 | 90,5 | 0.90475 | 42,6 | 9.62935 | 92,2 | 9.95653 | 20,4 | 25 12 36.51 |
| .441 | .42684 | 90,4 | .90433 | 42,7 | .63027 | 92,0 | .95632 | 20,5 | 25 16 02.78 |
| .442 | .42775 | 90,4 | .90390 | 42,8 | .63119 | 91,8 | .95612 | 20,6 | 25 19 29.04 |
| .443 | .42865 | 90,3 | .90347 | 42,9 | .63210 | 91,5 | .95591 | 20,6 | 25 22 55.31 |
| .444 | .42956 | 90,3 | .90304 | 43,0 | .63302 | 91,3 | .95571 | 20,7 | 25 26 21.57 |
| 0.445 | 0.43046 | 90,3 | 0.90261 | 43,0 | 9.63393 | 91,1 | 9.95550 | 20,7 | 25 29 47.84 |
| .446 | .43136 | 90,2 | .90218 | 43,1 | .63484 | 90,8 | .95529 | 20,8 | 25 33 14.10 |
| .447 | .43226 | 90,2 | .90175 | 43,2 | .63575 | 90,6 | .95509 | 20,8 | 25 36 40.37 |
| .448 | .43316 | 90,1 | .90132 | 43,3 | .63665 | 90,4 | .95488 | 20,9 | 25 40 06.63 |
| .449 | .43406 | 90,1 | .90088 | 43,4 | .63755 | 90,1 | .95467 | 20,9 | 25 43 32.90 |
| 0.450 | 0.43497 | 90,0 | 0.90045 | 43,5 | 9.63845 | 89,9 | 9.95446 | 21,0 | 25 46 59.16 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|----------------|
| 0.450 | 0.43497 | 90,0 | 0.90045 | 43,5 | 9.63845 | 89,9 | 9.95446 | 21,0 | 25° 46' 59".16 |
| .451 | .43587 | 90,0 | .90001 | 43,6 | .63935 | 89,7 | .95425 | 21,0 | 25° 50' 25.43 |
| .452 | .43677 | 90,0 | .89958 | 43,7 | .64025 | 89,4 | .95404 | 21,1 | 25° 53' 51.69 |
| .453 | .43766 | 89,9 | .89914 | 43,8 | .64114 | 89,2 | .95383 | 21,1 | 25° 57' 17.96 |
| .454 | .43856 | 89,9 | .89870 | 43,9 | .64203 | 89,0 | .95361 | 21,2 | 26° 00' 44.22 |
| 0.455 | 0.43946 | 89,8 | 0.89826 | 43,9 | 9.64202 | 88,8 | 9.95340 | 21,2 | 26° 04' 10.49 |
| .456 | .44030 | 89,8 | .89782 | 44,0 | .64381 | 88,5 | .95319 | 21,3 | 26° 07' 36.75 |
| .457 | .44126 | 89,7 | .89738 | 44,1 | .64469 | 88,3 | .95298 | 21,4 | 26° 11' 03.02 |
| .458 | .44216 | 89,7 | .89694 | 44,2 | .64557 | 88,1 | .95276 | 21,4 | 26° 14' 29.28 |
| .459 | .44305 | 89,6 | .89650 | 44,3 | .64645 | 87,9 | .95255 | 21,5 | 26° 17' 55.55 |
| 0.460 | 0.44395 | 89,6 | 0.89605 | 44,4 | 9.64733 | 87,7 | 9.95233 | 21,5 | 26° 21' 21.81 |
| .461 | .44484 | 89,6 | .89561 | 44,5 | .64821 | 87,4 | .95212 | 21,6 | 26° 24' 48.08 |
| .462 | .44574 | 89,5 | .89516 | 44,6 | .64908 | 87,2 | .95190 | 21,6 | 26° 28' 14.34 |
| .463 | .44663 | 89,5 | .89472 | 44,7 | .64995 | 87,0 | .95169 | 21,7 | 26° 31' 40.61 |
| .464 | .44753 | 89,4 | .89427 | 44,8 | .65082 | 86,8 | .95147 | 21,7 | 26° 35' 06.87 |
| 0.465 | 0.44842 | 89,4 | 0.89382 | 44,8 | 9.65169 | 86,6 | 9.95125 | 21,8 | 26° 38' 33.13 |
| .466 | .44932 | 89,3 | .89337 | 44,9 | .65255 | 86,4 | .95103 | 21,8 | 26° 41' 59.40 |
| .467 | .45021 | 89,3 | .89292 | 45,0 | .65341 | 86,1 | .95081 | 21,9 | 26° 45' 25.66 |
| .468 | .45110 | 89,2 | .89247 | 45,1 | .65428 | 85,9 | .95059 | 22,0 | 26° 48' 51.93 |
| .469 | .45199 | 89,2 | .89202 | 45,2 | .65513 | 85,7 | .95037 | 22,0 | 26° 52' 18.19 |
| 0.470 | 0.45289 | 89,2 | 0.89157 | 45,3 | 9.65599 | 85,5 | 9.95015 | 22,1 | 26° 55' 44.46 |
| .471 | .45378 | 89,1 | .89111 | 45,4 | .65684 | 85,3 | .94993 | 22,1 | 26° 59' 10.72 |
| .472 | .45467 | 89,1 | .89066 | 45,5 | .65769 | 85,1 | .94971 | 22,2 | 27° 02' 36.99 |
| .473 | .45556 | 89,0 | .89021 | 45,6 | .65854 | 84,9 | .94949 | 22,2 | 27° 06' 03.25 |
| .474 | .45645 | 89,0 | .88975 | 45,6 | .65939 | 84,7 | .94927 | 22,3 | 27° 09' 29.52 |
| 0.475 | 0.45734 | 88,9 | 0.88929 | 45,7 | 9.66024 | 84,4 | 9.94904 | 22,3 | 27° 12' 55.78 |
| .476 | .45823 | 88,9 | .88883 | 45,8 | .66108 | 84,2 | .94882 | 22,4 | 27° 16' 22.05 |
| .477 | .45912 | 88,8 | .88838 | 45,9 | .66192 | 84,0 | .94860 | 22,4 | 27° 19' 48.31 |
| .478 | .46000 | 88,8 | .88792 | 46,0 | .66276 | 83,8 | .94837 | 22,5 | 27° 23' 14.58 |
| .479 | .46089 | 88,7 | .88746 | 46,1 | .66360 | 83,6 | .94815 | 22,6 | 27° 26' 40.84 |
| 0.480 | 0.46178 | 88,7 | 0.88699 | 46,2 | 9.66443 | 83,4 | 9.94792 | 22,6 | 27° 30' 07.11 |
| .481 | .46267 | 88,7 | .88653 | 46,3 | .66527 | 83,2 | .94769 | 22,7 | 27° 33' 33.37 |
| .482 | .46355 | 88,6 | .88607 | 46,4 | .66610 | 83,0 | .94747 | 22,7 | 27° 36' 59.64 |
| .483 | .46444 | 88,6 | .88561 | 46,4 | .66693 | 82,8 | .94724 | 22,8 | 27° 40' 25.90 |
| .484 | .46532 | 88,5 | .88514 | 46,5 | .66775 | 82,6 | .94701 | 22,8 | 27° 43' 52.17 |
| 0.485 | 0.46621 | 88,5 | 0.88467 | 46,6 | 9.66858 | 82,4 | 9.94678 | 22,9 | 27° 47' 18.43 |
| .486 | .46709 | 88,4 | .88421 | 46,7 | .66940 | 82,2 | .94655 | 22,9 | 27° 50' 44.70 |
| .487 | .46798 | 88,4 | .88374 | 46,8 | .67022 | 82,0 | .94633 | 23,0 | 27° 54' 10.96 |
| .488 | .46886 | 88,3 | .88327 | 46,9 | .67104 | 81,8 | .94609 | 23,1 | 27° 57' 37.23 |
| .489 | .46974 | 88,3 | .88280 | 47,0 | .67186 | 81,6 | .94586 | 23,1 | 28° 01' 03.49 |
| 0.490 | 0.47063 | 88,2 | 0.88233 | 47,1 | 9.67268 | 81,4 | 9.94563 | 23,2 | 28° 04' 29.76 |
| .491 | .47151 | 88,2 | .88186 | 47,2 | .67349 | 81,2 | .94540 | 23,2 | 28° 07' 56.02 |
| .492 | .47239 | 88,1 | .88139 | 47,2 | .67430 | 81,0 | .94517 | 23,3 | 28° 11' 22.28 |
| .493 | .47327 | 88,1 | .88092 | 47,3 | .67511 | 80,8 | .94493 | 23,3 | 28° 14' 48.55 |
| .494 | .47415 | 88,0 | .88044 | 47,4 | .67592 | 80,6 | .94470 | 23,4 | 28° 18' 14.81 |
| 0.495 | 0.47503 | 88,0 | 0.87997 | 47,5 | 9.67672 | 80,5 | 9.94447 | 23,4 | 28° 21' 41.08 |
| .496 | .47591 | 87,9 | .87949 | 47,6 | .67753 | 80,3 | .94423 | 23,5 | 28° 25' 07.34 |
| .497 | .47679 | 87,9 | .87902 | 47,7 | .67833 | 80,1 | .94400 | 23,6 | 28° 28' 33.61 |
| .498 | .47767 | 87,9 | .87854 | 47,8 | .67913 | 79,9 | .94376 | 23,6 | 28° 31' 59.87 |
| .499 | .47855 | 87,8 | .87806 | 47,9 | .67993 | 79,7 | .94352 | 23,7 | 28° 35' 26.14 |
| 0.500 | 0.47943 | 87,8 | 0.87758 | 47,9 | 9.68072 | 79,5 | 9.94329 | 23,7 | 28° 38' 52.40 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.500 | 0.47943 | 87,8 | 0.87758 | 47,9 | 9.68072 | 79,5 | 9.94329 | 23,7 | 28° 38' 52.40 |
| .501 | .48030 | 87,7 | .87710 | 48,0 | .68152 | 79,3 | .94305 | 23,8 | 28 42 18.67 |
| .502 | .48118 | 87,7 | .87662 | 48,1 | .68231 | 79,1 | .94281 | 23,8 | 28 45 44.93 |
| .503 | .48206 | 87,6 | .87614 | 48,2 | .68310 | 78,9 | .94257 | 23,9 | 28 49 11.20 |
| .504 | .48293 | 87,6 | .87566 | 48,3 | .68389 | 78,7 | .94233 | 24,0 | 28 52 37.46 |
| 0.505 | 0.48381 | 87,5 | 0.87517 | 48,4 | 9.68467 | 78,6 | 9.94209 | 24,0 | 28 56 03.73 |
| .506 | .48468 | 87,5 | .87469 | 48,5 | .68546 | 78,4 | .94185 | 24,1 | 28 59 29.99 |
| .507 | .48556 | 87,4 | .87421 | 48,6 | .68624 | 78,2 | .94161 | 24,1 | 29 02 56.26 |
| .508 | .48643 | 87,4 | .87372 | 48,6 | .68702 | 78,0 | .94137 | 24,2 | 29 06 22.52 |
| .509 | .48730 | 87,3 | .87323 | 48,7 | .68780 | 77,8 | .94113 | 24,2 | 29 09 48.79 |
| 0.510 | 0.48818 | 87,3 | 0.87274 | 48,8 | 9.68858 | 77,6 | 9.94089 | 24,3 | 29 13 15.05 |
| .511 | .48905 | 87,2 | .87226 | 48,9 | .68935 | 77,5 | .94064 | 24,3 | 29 16 41.32 |
| .512 | .48992 | 87,2 | .87177 | 49,0 | .69013 | 77,3 | .94040 | 24,4 | 29 20 07.58 |
| .513 | .49079 | 87,1 | .87128 | 49,1 | .69090 | 77,1 | .94016 | 24,5 | 29 23 33.85 |
| .514 | .49166 | 87,1 | .87078 | 49,2 | .69167 | 76,9 | .93991 | 24,5 | 29 27 00.11 |
| 0.515 | 0.49253 | 87,0 | 0.87029 | 49,3 | 9.69244 | 76,7 | 9.93967 | 24,6 | 29 30 26.38 |
| .516 | .49340 | 87,0 | .86980 | 49,3 | .69320 | 76,6 | .93942 | 24,6 | 29 33 52.04 |
| .517 | .49427 | 86,9 | .86931 | 49,4 | .69397 | 76,4 | .93917 | 24,7 | 29 37 18.50 |
| .518 | .49514 | 86,9 | .86881 | 49,5 | .69473 | 76,2 | .93893 | 24,8 | 29 40 45.17 |
| .519 | .49601 | 86,8 | .86832 | 49,6 | .69549 | 76,0 | .93868 | 24,8 | 29 44 11.43 |
| 0.520 | 0.49688 | 86,8 | 0.86782 | 49,7 | 9.69625 | 75,9 | 9.93843 | 24,9 | 29 47 37.70 |
| .521 | .49775 | 86,7 | .86732 | 49,8 | .69701 | 75,7 | .93818 | 24,9 | 29 51 03.96 |
| .522 | .49861 | 86,7 | .86682 | 49,9 | .69777 | 75,5 | .93793 | 25,0 | 29 54 30.23 |
| .523 | .49948 | 86,6 | .86632 | 49,9 | .69852 | 75,3 | .93768 | 25,0 | 29 57 56.49 |
| .524 | .50035 | 86,6 | .86582 | 50,0 | .69927 | 75,2 | .93743 | 25,1 | 30 01 22.76 |
| 0.525 | 0.50121 | 86,5 | 0.86532 | 50,1 | 9.70002 | 75,0 | 9.93718 | 25,2 | 30 04 49.02 |
| .526 | .50208 | 86,5 | .86482 | 50,2 | .70077 | 74,8 | .93693 | 25,2 | 30 08 15.29 |
| .527 | .50294 | 86,4 | .86432 | 50,3 | .70152 | 74,6 | .93667 | 25,3 | 30 11 41.55 |
| .528 | .50381 | 86,4 | .86382 | 50,4 | .70226 | 74,5 | .93642 | 25,3 | 30 15 07.82 |
| .529 | .50467 | 86,3 | .86331 | 50,5 | .70301 | 74,3 | .93617 | 25,4 | 30 18 34.08 |
| 0.530 | 0.50553 | 86,3 | 0.86281 | 50,6 | 9.70375 | 74,1 | 9.93591 | 25,4 | 30 22 00.35 |
| .531 | .50640 | 86,2 | .86230 | 50,6 | .70449 | 74,0 | .93566 | 25,5 | 30 25 26.61 |
| .532 | .50726 | 86,2 | .86179 | 50,7 | .70523 | 73,8 | .93540 | 25,6 | 30 28 52.88 |
| .533 | .50812 | 86,1 | .86129 | 50,8 | .70597 | 73,6 | .93515 | 25,6 | 30 32 19.14 |
| .534 | .50898 | 86,1 | .86078 | 50,9 | .70670 | 73,4 | .93489 | 25,7 | 30 35 45.41 |
| 0.535 | 0.50984 | 86,0 | 0.86027 | 51,0 | 9.70743 | 73,3 | 9.93463 | 25,7 | 30 39 11.67 |
| .536 | .51070 | 86,0 | .85976 | 51,1 | .70817 | 73,1 | .93438 | 25,8 | 30 42 37.94 |
| .537 | .51156 | 85,9 | .85925 | 51,2 | .70890 | 72,9 | .93412 | 25,9 | 30 46 04.20 |
| .538 | .51242 | 85,9 | .85874 | 51,2 | .70963 | 72,8 | .93386 | 25,9 | 30 49 30.47 |
| .539 | .51328 | 85,8 | .85822 | 51,3 | .71035 | 72,6 | .93360 | 26,0 | 30 52 56.73 |
| 0.540 | 0.51414 | 85,8 | 0.85771 | 51,4 | 9.71108 | 72,5 | 9.93334 | 26,0 | 30 56 23.00 |
| .541 | .51499 | 85,7 | .85719 | 51,5 | .71180 | 72,3 | .93308 | 26,1 | 30 59 49.26 |
| .542 | .51585 | 85,7 | .85668 | 51,6 | .71252 | 72,1 | .93282 | 26,2 | 31 03 15.52 |
| .543 | .51671 | 85,6 | .85616 | 51,7 | .71324 | 72,0 | .93256 | 26,2 | 31 06 41.79 |
| .544 | .51756 | 85,6 | .85565 | 51,8 | .71396 | 71,8 | .93229 | 26,3 | 31 10 08.05 |
| 0.545 | 0.51842 | 85,5 | 0.85513 | 51,8 | 9.71468 | 71,6 | 9.93203 | 26,3 | 31 13 34.32 |
| .546 | .51927 | 85,5 | .85461 | 51,9 | .71540 | 71,5 | .93177 | 26,4 | 31 17 00.58 |
| .547 | .52013 | 85,4 | .85409 | 52,0 | .71611 | 71,3 | .93150 | 26,4 | 31 20 26.85 |
| .548 | .52098 | 85,4 | .85357 | 52,1 | .71682 | 71,2 | .93124 | 26,5 | 31 23 53.11 |
| .549 | .52183 | 85,3 | .85305 | 52,2 | .71753 | 71,0 | .93097 | 26,6 | 31 27 19.38 |
| 0.550 | 0.52269 | 85,3 | 0.85252 | 52,3 | 9.71824 | 70,8 | 9.93071 | 26,6 | 31 30 45.64 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.550 | 0.52269 | 85,3 | 0.85252 | 52,3 | 9.71824 | 70,8 | 9.93071 | 26,6 | 31° 30' 45.64 |
| .551 | .52354 | 85,2 | .85200 | 52,4 | .71895 | 70,7 | .93044 | 26,7 | 31° 34' 11.91 |
| .552 | .52439 | 85,1 | .85148 | 52,4 | .71966 | 70,5 | .93017 | 26,7 | 31° 37' 38.17 |
| .553 | .52524 | 85,1 | .85095 | 52,5 | .72036 | 70,4 | .92991 | 26,8 | 31° 41' 04.44 |
| .554 | .52609 | 85,0 | .85043 | 52,6 | .72106 | 70,2 | .92964 | 26,9 | 31° 44' 30.70 |
| 0.555 | 0.52694 | 85,0 | 0.84990 | 52,7 | 9.72176 | 70,0 | 9.92937 | 26,9 | 31° 47' 56.97 |
| .556 | .52779 | 84,9 | .84937 | 52,8 | .72246 | 69,9 | .92910 | 27,0 | 31° 51' 23.23 |
| .557 | .52864 | 84,9 | .84884 | 52,9 | .72316 | 69,7 | .92883 | 27,0 | 31° 54' 49.50 |
| .558 | .52949 | 84,8 | .84832 | 52,9 | .72386 | 69,6 | .92856 | 27,1 | 31° 58' 15.76 |
| .559 | .53034 | 84,8 | .84779 | 53,0 | .72455 | 69,4 | .92829 | 27,2 | 32° 01' 42.03 |
| 0.560 | 0.53119 | 84,7 | 0.84726 | 53,1 | 9.72525 | 69,3 | 9.92801 | 27,2 | 32° 05' 08.29 |
| .561 | .53203 | 84,7 | .84672 | 53,2 | .72594 | 69,1 | .92774 | 27,3 | 32° 08' 34.56 |
| .562 | .53288 | 84,6 | .84619 | 53,3 | .72663 | 69,0 | .92747 | 27,3 | 32° 12' 00.82 |
| .563 | .53373 | 84,6 | .84566 | 53,4 | .72732 | 68,8 | .92719 | 27,4 | 32° 15' 27.09 |
| .564 | .53457 | 84,5 | .84512 | 53,5 | .72801 | 68,7 | .92692 | 27,5 | 32° 18' 53.35 |
| 0.565 | 0.53542 | 84,5 | 0.84459 | 53,5 | 9.72869 | 68,5 | 9.92665 | 27,5 | 32° 22' 19.62 |
| .566 | .53626 | 84,4 | .84405 | 53,6 | .72938 | 68,4 | .92637 | 27,6 | 32° 25' 45.88 |
| .567 | .53710 | 84,4 | .84352 | 53,7 | .73006 | 68,2 | .92609 | 27,7 | 32° 29' 12.15 |
| .568 | .53795 | 84,3 | .84298 | 53,8 | .73074 | 68,1 | .92582 | 27,7 | 32° 32' 38.41 |
| .569 | .53879 | 84,2 | .84244 | 53,9 | .73142 | 67,9 | .92554 | 27,8 | 32° 36' 04.67 |
| 0.570 | 0.53963 | 84,2 | 0.84190 | 54,0 | 9.73210 | 67,8 | 9.92526 | 27,8 | 32° 39' 30.94 |
| .571 | .54047 | 84,1 | .84136 | 54,0 | .73277 | 67,6 | .92498 | 27,9 | 32° 42' 57.20 |
| .572 | .54131 | 84,1 | .84082 | 54,1 | .73345 | 67,5 | .92470 | 28,0 | 32° 46' 23.47 |
| .573 | .54216 | 84,0 | .84028 | 54,2 | .73412 | 67,3 | .92442 | 28,0 | 32° 49' 49.73 |
| .574 | .54300 | 84,0 | .83974 | 54,3 | .73480 | 67,2 | .92414 | 28,1 | 32° 53' 16.00 |
| 0.575 | 0.54383 | 83,9 | 0.83919 | 54,4 | 9.73547 | 67,0 | 9.92386 | 28,1 | 32° 56' 42.26 |
| .576 | .54467 | 83,9 | .83865 | 54,5 | .73614 | 66,9 | .92358 | 28,2 | 33° 00' 08.53 |
| .577 | .54551 | 83,8 | .83810 | 54,6 | .73680 | 66,7 | .92330 | 28,3 | 33° 03' 34.79 |
| .578 | .54635 | 83,8 | .83756 | 54,6 | .73747 | 66,6 | .92301 | 28,3 | 33° 07' 01.06 |
| .579 | .54719 | 83,7 | .83701 | 54,7 | .73814 | 66,4 | .92273 | 28,4 | 33° 10' 27.32 |
| 0.580 | 0.54802 | 83,6 | 0.83646 | 54,8 | 9.73880 | 66,3 | 9.92245 | 28,5 | 33° 13' 53.59 |
| .581 | .54886 | 83,6 | .83591 | 54,9 | .73946 | 66,2 | .92216 | 28,5 | 33° 17' 19.85 |
| .582 | .54970 | 83,5 | .83536 | 55,0 | .74012 | 66,0 | .92188 | 28,6 | 33° 20' 46.12 |
| .583 | .55053 | 83,5 | .83481 | 55,1 | .74078 | 65,9 | .92159 | 28,6 | 33° 24' 12.38 |
| .584 | .55137 | 83,4 | .83426 | 55,1 | .74144 | 65,7 | .92130 | 28,7 | 33° 27' 38.65 |
| 0.585 | 0.55220 | 83,4 | 0.83371 | 55,2 | 9.74210 | 65,6 | 9.92102 | 28,8 | 33° 31' 04.91 |
| .586 | .55303 | 83,3 | .83316 | 55,3 | .74275 | 65,4 | .92073 | 28,8 | 33° 34' 31.18 |
| .587 | .55387 | 83,3 | .83261 | 55,4 | .74340 | 65,3 | .92044 | 28,9 | 33° 37' 57.44 |
| .588 | .55470 | 83,2 | .83205 | 55,5 | .74406 | 65,1 | .92015 | 29,0 | 33° 41' 23.71 |
| .589 | .55553 | 83,1 | .83150 | 55,6 | .74471 | 65,0 | .91986 | 29,0 | 33° 44' 49.97 |
| 0.590 | 0.55636 | 83,1 | 0.83094 | 55,6 | 9.74536 | 64,9 | 9.91957 | 29,1 | 33° 48' 16.24 |
| .591 | .55719 | 83,0 | .83038 | 55,7 | .74600 | 64,7 | .91928 | 29,1 | 33° 51' 42.50 |
| .592 | .55802 | 83,0 | .82983 | 55,8 | .74665 | 64,6 | .91899 | 29,2 | 33° 55' 08.77 |
| .593 | .55885 | 82,9 | .82927 | 55,9 | .74730 | 64,4 | .91869 | 29,3 | 33° 58' 35.03 |
| .594 | .55968 | 82,9 | .82871 | 56,0 | .74794 | 64,3 | .91840 | 29,3 | 34° 02' 01.29 |
| 0.595 | 0.56051 | 82,8 | 0.82815 | 56,1 | 9.74858 | 64,2 | 9.91811 | 29,4 | 34° 05' 27.56 |
| .596 | .56134 | 82,8 | .82759 | 56,1 | .74922 | 64,0 | .91781 | 29,5 | 34° 08' 53.82 |
| .597 | .56216 | 82,7 | .82703 | 56,2 | .74986 | 63,9 | .91752 | 29,5 | 34° 12' 20.09 |
| .598 | .56299 | 82,6 | .82646 | 56,3 | .75050 | 63,8 | .91722 | 29,6 | 34° 15' 46.35 |
| .599 | .56382 | 82,6 | .82590 | 56,4 | .75114 | 63,6 | .91693 | 29,6 | 34° 19' 12.62 |
| 0.600 | 0.56464 | 82,5 | 0.82534 | 56,5 | 9.75177 | 63,5 | 9.91663 | 29,7 | 34° 22' 38.88 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.600 | 0.56464 | 82,5 | 0.82534 | 56,5 | 9.75177 | 63,5 | 9.91663 | 29,7 | 34 22' 38".88 |
| .601 | .56547 | 82,5 | .82477 | 56,5 | .75241 | 63,3 | .91633 | 29,8 | 34 26 05.15 |
| .602 | .56629 | 82,4 | .82420 | 56,6 | .75304 | 63,2 | .91604 | 29,8 | 34 29 31.41 |
| .603 | .56712 | 82,4 | .82364 | 56,7 | .75367 | 63,1 | .91574 | 29,9 | 34 32 57.68 |
| .604 | .56794 | 82,3 | .82307 | 56,8 | .75430 | 62,9 | .91544 | 30,0 | 34 36 23.94 |
| 0.605 | 0.56876 | 82,3 | 0.82250 | 56,9 | 9.75493 | 62,8 | 9.91414 | 30,0 | 34 39 50.21 |
| .606 | .56958 | 82,2 | .82193 | 57,0 | .75556 | 62,7 | .91484 | 30,1 | 34 43 16.47 |
| .607 | .57041 | 82,1 | .82133 | 57,0 | .75618 | 62,5 | .91454 | 30,2 | 34 46 42.74 |
| .608 | .57123 | 82,1 | .82079 | 57,1 | .75681 | 62,4 | .91423 | 30,2 | 34 50 09.00 |
| .609 | .57205 | 82,0 | .82022 | 57,2 | .75743 | 62,3 | .91393 | 30,3 | 34 53 35.27 |
| 0.610 | 0.57287 | 82,0 | 0.81965 | 57,3 | 9.75805 | 62,1 | 9.91363 | 30,4 | 34 57 01.53 |
| .611 | .57369 | 81,9 | .81907 | 57,4 | .75867 | 62,0 | .91332 | 30,4 | 35 00 27.80 |
| .612 | .57451 | 81,9 | .81850 | 57,5 | .75929 | 61,9 | .91302 | 30,5 | 35 03 54.06 |
| .613 | .57532 | 81,8 | .81793 | 57,5 | .75991 | 61,7 | .91271 | 30,5 | 35 07 20.33 |
| .614 | .57614 | 81,7 | .81735 | 57,6 | .76053 | 61,6 | .91241 | 30,6 | 35 10 46.59 |
| 0.615 | 0.57696 | 81,7 | 0.81677 | 57,7 | 9.76114 | 61,5 | 9.91210 | 30,7 | 35 14 12.86 |
| .616 | .57778 | 81,6 | .81620 | 57,8 | .76176 | 61,4 | .91179 | 30,7 | 35 17 39.12 |
| .617 | .57859 | 81,6 | .81562 | 57,9 | .76237 | 61,2 | .91149 | 30,8 | 35 21 05.39 |
| .618 | .57941 | 81,5 | .81504 | 57,9 | .76298 | 61,1 | .91118 | 30,9 | 35 24 31.65 |
| .619 | .58022 | 81,4 | .81446 | 58,0 | .76359 | 61,0 | .91087 | 30,9 | 35 27 57.92 |
| 0.620 | 0.58104 | 81,4 | 0.81388 | 58,1 | 9.76420 | 60,8 | 9.91056 | 31,0 | 35 31 24.18 |
| .621 | .58185 | 81,3 | .81330 | 58,2 | .76481 | 60,7 | .91025 | 31,1 | 35 34 50.44 |
| .622 | .58266 | 81,3 | .81271 | 58,3 | .76542 | 60,6 | .90994 | 31,1 | 35 38 16.71 |
| .623 | .58347 | 81,2 | .81213 | 58,3 | .76602 | 60,4 | .90963 | 31,2 | 35 41 42.97 |
| .624 | .58429 | 81,2 | .81155 | 58,4 | .76663 | 60,3 | .90931 | 31,3 | 35 45 09.24 |
| 0.625 | 0.58510 | 81,1 | 0.81096 | 58,5 | 9.76723 | 60,2 | 9.90900 | 31,3 | 35 48 35.50 |
| .626 | .58591 | 81,0 | .81038 | 58,6 | .76783 | 60,1 | .90869 | 31,4 | 35 52 01.77 |
| .627 | .58672 | 81,0 | .80979 | 58,7 | .76843 | 59,9 | .90837 | 31,5 | 35 55 28.03 |
| .628 | .58753 | 80,9 | .80920 | 58,8 | .76903 | 59,8 | .90806 | 31,5 | 35 58 54.30 |
| .629 | .58834 | 80,9 | .80862 | 58,8 | .76963 | 59,7 | .90774 | 31,6 | 36 02 20.56 |
| 0.630 | 0.58914 | 80,8 | 0.80803 | 58,9 | 9.77022 | 59,6 | 9.90743 | 31,7 | 36 05 46.83 |
| .631 | .58995 | 80,7 | .80744 | 59,0 | .77082 | 59,4 | .90711 | 31,7 | 36 09 13.09 |
| .632 | .59076 | 80,7 | .80685 | 59,1 | .77141 | 59,3 | .90679 | 31,8 | 36 12 39.36 |
| .633 | .59157 | 80,6 | .80626 | 59,2 | .77200 | 59,2 | .90647 | 31,9 | 36 16 05.62 |
| .634 | .59237 | 80,6 | .80566 | 59,2 | .77259 | 59,1 | .90615 | 31,9 | 36 19 31.89 |
| 0.635 | 0.59318 | 80,5 | 0.80507 | 59,3 | 9.77318 | 58,9 | 9.90583 | 32,0 | 36 22 58.15 |
| .636 | .59398 | 80,4 | .80448 | 59,4 | .77377 | 58,8 | .90551 | 32,1 | 36 26 24.42 |
| .637 | .59479 | 80,4 | .80388 | 59,5 | .77436 | 58,7 | .90519 | 32,1 | 36 29 50.68 |
| .638 | .59559 | 80,3 | .80329 | 59,6 | .77495 | 58,6 | .90487 | 32,2 | 36 33 16.95 |
| .639 | .59639 | 80,3 | .80269 | 59,6 | .77553 | 58,5 | .90455 | 32,3 | 36 36 43.21 |
| 0.640 | 0.59720 | 80,2 | 0.80210 | 59,7 | 9.77612 | 58,3 | 9.90423 | 32,3 | 36 40 09.48 |
| .641 | .59800 | 80,1 | .80150 | 59,8 | .77670 | 58,2 | .90390 | 32,4 | 36 43 35.74 |
| .642 | .59880 | 80,1 | .80090 | 59,9 | .77728 | 58,1 | .90358 | 32,5 | 36 47 02.01 |
| .643 | .59960 | 80,0 | .80030 | 60,0 | .77786 | 58,0 | .90325 | 32,5 | 36 50 28.27 |
| .644 | .60040 | 80,0 | .79970 | 60,0 | .77844 | 57,8 | .90293 | 32,6 | 36 53 54.54 |
| 0.645 | 0.60120 | 79,9 | 0.79910 | 60,1 | 9.77902 | 57,7 | 9.90260 | 32,7 | 36 57 20.80 |
| .646 | .60200 | 79,8 | .79850 | 60,2 | .77959 | 57,6 | .90227 | 32,7 | 37 00 47.06 |
| .647 | .60280 | 79,8 | .79790 | 60,3 | .78017 | 57,5 | .90195 | 32,8 | 37 04 13.33 |
| .648 | .60359 | 79,7 | .79729 | 60,4 | .78074 | 57,4 | .90162 | 32,9 | 37 07 39.59 |
| .649 | .60439 | 79,7 | .79669 | 60,4 | .78132 | 57,2 | .90129 | 32,9 | 37 11 05.86 |
| 0.650 | 0.60519 | 79,6 | 0.79608 | 60,5 | 9.78189 | 57,1 | 9.90096 | 33,0 | 37 14 32.12 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|----------------|
| 0.650 | 0.60519 | 79,6 | 0.79608 | 60,5 | 9.78189 | 57,1 | 9.90096 | 33,0 | 37° 14' 32".12 |
| .651 | .60598 | 79,5 | .79548 | 60,6 | .78246 | 57,0 | .90063 | 33,1 | 37° 17' 58.39 |
| .652 | .60678 | 79,5 | .79487 | 60,7 | .78303 | 56,9 | .90030 | 33,2 | 37° 21' 24.65 |
| .653 | .60757 | 79,4 | .79426 | 60,8 | .78360 | 56,8 | .89997 | 33,2 | 37° 24' 50.92 |
| .654 | .60837 | 79,4 | .79366 | 60,8 | .78416 | 56,7 | .89963 | 33,3 | 37° 28' 17.18 |
| 0.655 | 0.60916 | 79,3 | 0.79305 | 60,9 | 9.78473 | 56,5 | 9.89930 | 33,4 | 37° 31' 43.45 |
| .656 | .60995 | 79,2 | .79244 | 61,0 | .78530 | 56,4 | .89897 | 33,4 | 37° 35' 09.71 |
| .657 | .61074 | 79,2 | .79183 | 61,1 | .78586 | 56,3 | .89863 | 33,5 | 37° 38' 35.98 |
| .658 | .61154 | 79,1 | .79122 | 61,2 | .78642 | 56,2 | .89830 | 33,6 | 37° 42' 02.24 |
| .659 | .61233 | 79,1 | .79060 | 61,2 | .78698 | 56,1 | .89796 | 33,6 | 37° 45' 28.51 |
| 0.660 | 0.61312 | 79,0 | 0.78999 | 61,3 | 9.78754 | 56,0 | 9.89762 | 33,7 | 37° 48' 54.77 |
| .661 | .61391 | 78,9 | .78938 | 61,4 | .78810 | 55,8 | .89729 | 33,8 | 37° 52' 21.04 |
| .662 | .61470 | 78,9 | .78876 | 61,5 | .78866 | 55,7 | .89695 | 33,8 | 37° 55' 47.30 |
| .663 | .61548 | 78,8 | .78815 | 61,5 | .78922 | 55,6 | .89661 | 33,9 | 37° 59' 13.57 |
| .664 | .61627 | 78,8 | .78753 | 61,6 | .78977 | 55,5 | .89627 | 34,0 | 38° 02' 39.83 |
| 0.665 | 0.61706 | 78,7 | 0.78692 | 61,7 | 9.79033 | 55,4 | 9.89593 | 34,1 | 38° 06' 06.10 |
| .666 | .61785 | 78,6 | .78630 | 61,8 | .79088 | 55,3 | .89559 | 34,1 | 38° 09' 32.36 |
| .667 | .61863 | 78,6 | .78568 | 61,9 | .79143 | 55,2 | .89525 | 34,2 | 38° 12' 58.63 |
| .668 | .61942 | 78,5 | .78506 | 61,9 | .79198 | 55,0 | .89490 | 34,3 | 38° 16' 24.89 |
| .669 | .62020 | 78,4 | .78444 | 62,0 | .79253 | 54,9 | .89456 | 34,3 | 38° 19' 51.16 |
| 0.670 | 0.62099 | 78,4 | 0.78382 | 62,1 | 9.79308 | 54,8 | 9.89422 | 34,4 | 38° 23' 17.42 |
| .671 | .62177 | 78,3 | .78320 | 62,2 | .79363 | 54,7 | .89387 | 34,5 | 38° 26' 43.68 |
| .672 | .62255 | 78,3 | .78258 | 62,3 | .79418 | 54,6 | .89353 | 34,5 | 38° 30' 09.95 |
| .673 | .62333 | 78,2 | .78196 | 62,3 | .79472 | 54,5 | .89318 | 34,6 | 38° 33' 36.21 |
| .674 | .62412 | 78,1 | .78133 | 62,4 | .79527 | 54,4 | .89284 | 34,7 | 38° 37' 02.48 |
| 0.675 | 0.62490 | 78,1 | 0.78071 | 62,5 | 9.79581 | 54,3 | 9.89249 | 34,8 | 38° 40' 28.74 |
| .676 | .62568 | 78,0 | .78008 | 62,6 | .79635 | 54,1 | .89214 | 34,8 | 38° 43' 55.01 |
| .677 | .62646 | 77,9 | .77946 | 62,6 | .79689 | 54,0 | .89179 | 34,9 | 38° 47' 21.27 |
| .678 | .62724 | 77,9 | .77883 | 62,7 | .79743 | 53,9 | .89144 | 35,0 | 38° 50' 47.54 |
| .679 | .62802 | 77,8 | .77820 | 62,8 | .79797 | 53,8 | .89109 | 35,0 | 38° 54' 13.80 |
| 0.680 | 0.62879 | 77,8 | 0.77757 | 62,9 | 9.79851 | 53,7 | 9.89074 | 35,1 | 38° 57' 40.07 |
| .681 | .62957 | 77,7 | .77694 | 63,0 | .79904 | 53,6 | .89039 | 35,2 | 39° 01' 06.33 |
| .682 | .63035 | 77,6 | .77631 | 63,0 | .79958 | 53,5 | .89004 | 35,3 | 39° 04' 32.60 |
| .683 | .63112 | 77,6 | .77568 | 63,1 | .80011 | 53,4 | .88968 | 35,3 | 39° 07' 58.86 |
| .684 | .63190 | 77,5 | .77505 | 63,2 | .80065 | 53,3 | .88933 | 35,4 | 39° 11' 25.13 |
| 0.685 | 0.63267 | 77,4 | 0.77442 | 63,3 | 9.80118 | 53,2 | 9.88898 | 35,5 | 39° 14' 51.39 |
| .686 | .63345 | 77,4 | .77379 | 63,3 | .80171 | 53,1 | .88852 | 35,6 | 39° 18' 17.66 |
| .687 | .63422 | 77,3 | .77315 | 63,4 | .80224 | 52,9 | .88826 | 35,6 | 39° 21' 43.92 |
| .688 | .63499 | 77,3 | .77252 | 63,5 | .80277 | 52,8 | .88791 | 35,7 | 39° 25' 10.19 |
| .689 | .63577 | 77,2 | .77188 | 63,6 | .80330 | 52,7 | .88755 | 35,8 | 39° 28' 36.45 |
| 0.690 | 0.63654 | 77,1 | 0.77125 | 63,7 | 9.80382 | 52,6 | 9.88719 | 35,8 | 39° 32' 02.72 |
| .691 | .63731 | 77,1 | .77061 | 63,7 | .80435 | 52,5 | .88683 | 35,9 | 39° 35' 28.98 |
| .692 | .63808 | 77,0 | .76997 | 63,8 | .80487 | 52,4 | .88647 | 36,0 | 39° 38' 55.25 |
| .693 | .63885 | 76,9 | .76933 | 63,9 | .80540 | 52,3 | .88611 | 36,1 | 39° 42' 21.51 |
| .694 | .63962 | 76,9 | .76869 | 64,0 | .80592 | 52,2 | .88575 | 36,1 | 39° 45' 47.78 |
| 0.695 | 0.64039 | 76,8 | 0.76805 | 64,0 | 9.80644 | 52,1 | 9.88539 | 36,2 | 39° 49' 14.04 |
| .696 | .64115 | 76,7 | .76741 | 64,1 | .80696 | 52,0 | .88503 | 36,3 | 39° 52' 40.31 |
| .697 | .64192 | 76,7 | .76677 | 64,2 | .80748 | 51,9 | .88467 | 36,4 | 39° 55' 05.57 |
| .698 | .64269 | 76,6 | .76613 | 64,3 | .80800 | 51,8 | .88430 | 36,4 | 39° 58' 32.83 |
| .699 | .64345 | 76,5 | .76549 | 64,3 | .80852 | 51,7 | .88394 | 36,5 | 40° 02' 59.10 |
| 0.700 | 0.64422 | 76,5 | 0.76484 | 64,4 | 9.80903 | 51,6 | 9.88357 | 36,6 | 40° 06' 25.36 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|-----------|---------------|---------|---------------|--------------------------|---------------|------------|---------------|---------------|
| 0.700 | 0.64422 | 76,5 | 0.76484 | 64,4 | 9.80903 | 51,6 | 9.88357 | 36,6 | 40° 06' 25.36 |
| .701 | .64498 | 76,4 | .76420 | 64,5 | .80955 | 51,5 | .88321 | 36,7 | 40 09 51.63 |
| .702 | .64575 | 76,4 | .76355 | 64,6 | .81006 | 51,4 | .88284 | 36,7 | 40 13 17.89 |
| .703 | .64651 | 76,3 | .76291 | 64,7 | .81057 | 51,2 | .88247 | 36,8 | 40 16 44.16 |
| .704 | .64727 | 76,2 | .76226 | 64,7 | .81109 | 51,1 | .88210 | 36,9 | 40 20 10.42 |
| 0.705 | 0.64803 | 76,2 | 0.76161 | 64,8 | 9.81160 | 51,0 | 9.88173 | 37,0 | 40 23 36.69 |
| .706 | .64880 | 76,1 | .76096 | 64,9 | .81211 | 50,9 | .88136 | 37,0 | 40 27 02.95 |
| .707 | .64956 | 76,0 | .76031 | 65,0 | .81262 | 50,8 | .88099 | 37,1 | 40 30 29.22 |
| .708 | .65032 | 76,0 | .75966 | 65,0 | .81312 | 50,7 | .88062 | 37,2 | 40 33 55.48 |
| .709 | .65108 | 75,9 | .75901 | 65,1 | .81363 | 50,6 | .88025 | 37,3 | 40 37 21.75 |
| 0.710 | 0.65183 | 75,8 | 0.75836 | 65,2 | 9.81414 | 50,5 | 9.87988 | 37,3 | 40 40 48.01 |
| .711 | .65259 | 75,8 | .75771 | 65,3 | .81464 | 50,4 | .87950 | 37,4 | 40 44 14.28 |
| .712 | .65335 | 75,7 | .75706 | 65,3 | .81515 | 50,3 | .87913 | 37,5 | 40 47 40.54 |
| .713 | .65411 | 75,6 | .75640 | 65,4 | .81565 | 50,2 | .87875 | 37,6 | 40 51 06.81 |
| .714 | .65486 | 75,6 | .75575 | 65,5 | .81615 | 50,1 | .87838 | 37,6 | 40 54 33.07 |
| 0.715 | 0.65562 | 75,5 | 0.75509 | 65,6 | 9.81665 | 50,0 | 9.87800 | 37,7 | 40 57 59.34 |
| .716 | .65637 | 75,4 | .75444 | 65,6 | .81715 | 49,9 | .87762 | 37,8 | 41 01 25.60 |
| .717 | .65713 | 75,4 | .75378 | 65,7 | .81765 | 49,8 | .87724 | 37,9 | 41 04 51.87 |
| .718 | .65788 | 75,3 | .75312 | 65,8 | .81815 | 49,7 | .87687 | 37,9 | 41 08 18.13 |
| .719 | .65863 | 75,2 | .75246 | 65,9 | .81864 | 49,6 | .87649 | 38,0 | 41 11 44.40 |
| 0.720 | 0.65938 | 75,2 | 0.75181 | 65,9 | 9.81914 | 49,5 | 9.87611 | 38,1 | 41 15 10.66 |
| .721 | .66014 | 75,1 | .75115 | 66,0 | .81963 | 49,4 | .87572 | 38,2 | 41 18 36.93 |
| .722 | .66089 | 75,0 | .75049 | 66,1 | .82013 | 49,3 | .87534 | 38,2 | 41 22 03.19 |
| .723 | .66164 | 75,0 | .74982 | 66,2 | .82062 | 49,2 | .87496 | 38,3 | 41 25 29.45 |
| .724 | .66239 | 74,9 | .74916 | 66,2 | .82111 | 49,1 | .87458 | 38,4 | 41 28 55.72 |
| 0.725 | 0.66314 | 74,8 | 0.74850 | 66,3 | 9.82160 | 49,0 | 9.87419 | 38,5 | 41 32 21.98 |
| .726 | .66388 | 74,8 | .74784 | 66,4 | .82209 | 48,9 | .87381 | 38,6 | 41 35 48.25 |
| .727 | .66463 | 74,7 | .74717 | 66,5 | .82258 | 48,8 | .87342 | 38,6 | 41 39 14.51 |
| .728 | .66538 | 74,7 | .74651 | 66,5 | .82307 | 48,7 | .87303 | 38,7 | 41 42 40.78 |
| .729 | .66612 | 74,6 | .74584 | 66,6 | .82356 | 48,6 | .87265 | 38,8 | 41 46 07.04 |
| 0.730 | 0.66687 | 74,5 | 0.74517 | 66,7 | 9.82404 | 48,5 | 9.87226 | 38,9 | 41 49 33.31 |
| .731 | .66761 | 74,5 | .74451 | 66,8 | .82453 | 48,4 | .87187 | 38,9 | 41 52 59.57 |
| .732 | .66836 | 74,4 | .74384 | 66,8 | .82501 | 48,3 | .87148 | 39,0 | 41 56 25.84 |
| .733 | .66910 | 74,3 | .74317 | 66,9 | .82549 | 48,2 | .87109 | 39,1 | 41 59 52.10 |
| .734 | .66984 | 74,3 | .74250 | 67,0 | .82597 | 48,1 | .87070 | 39,2 | 42 03 18.37 |
| 0.735 | 0.67059 | 74,2 | 0.74183 | 67,1 | 9.82646 | 48,0 | 9.87030 | 39,3 | 42 06 44.63 |
| .736 | .67133 | 74,1 | .74116 | 67,1 | .82694 | 47,9 | .86991 | 39,3 | 42 10 10.90 |
| .737 | .67207 | 74,0 | .74049 | 67,2 | .82741 | 47,9 | .86952 | 39,4 | 42 13 37.16 |
| .738 | .67281 | 74,0 | .73982 | 67,3 | .82789 | 47,8 | .86912 | 39,5 | 42 17 03.43 |
| .739 | .67355 | 73,9 | .73914 | 67,4 | .82837 | 47,7 | .86873 | 39,6 | 42 20 29.69 |
| 0.740 | 0.67429 | 73,8 | 0.73847 | 67,4 | 9.82885 | 47,6 | 9.86833 | 39,7 | 42 23 55.96 |
| .741 | .67503 | 73,8 | .73779 | 67,5 | .82932 | 47,5 | .86794 | 39,7 | 42 27 22.22 |
| .742 | .67576 | 73,7 | .73712 | 67,6 | .82979 | 47,4 | .86754 | 39,8 | 42 30 48.49 |
| .743 | .67650 | 73,6 | .73644 | 67,7 | .83027 | 47,3 | .86714 | 39,9 | 42 34 14.75 |
| .744 | .67724 | 73,6 | .73577 | 67,7 | .83074 | 47,2 | .86674 | 40,0 | 42 37 41.02 |
| 0.745 | 0.67797 | 73,5 | 0.73509 | 67,8 | 9.83121 | 47,1 | 9.86634 | 40,0 | 42 41 07.28 |
| .746 | .67871 | 73,4 | .73441 | 67,9 | .83168 | 47,0 | .86594 | 40,1 | 42 44 33.55 |
| .747 | .67944 | 73,4 | .73373 | 67,9 | .83215 | 46,9 | .86554 | 40,2 | 42 47 59.81 |
| .748 | .68017 | 73,3 | .73305 | 68,0 | .83262 | 46,8 | .86513 | 40,3 | 42 51 26.08 |
| .749 | .68091 | 73,2 | .73237 | 68,1 | .83309 | 46,7 | .86473 | 40,4 | 42 54 52.34 |
| 0.750 | 0.68164 | 73,2 | 0.73169 | 68,2 | 9.83355 | 46,6 | 9.86433 | 40,5 | 42 58 18.60 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|---------------|
| 0.750 | 0.68164 | 73.2 | 0.73169 | 68.2 | 9.83355 | 46.6 | 9.86433 | 40.5 | 42° 58' 18.60 |
| .751 | .68237 | 73.1 | .73101 | 68.2 | .83402 | 46.5 | .86392 | 40.5 | 43 01 44.87 |
| .752 | .68310 | 73.0 | .73032 | 68.3 | .83448 | 46.4 | .86352 | 40.6 | 43 05 11.13 |
| .753 | .68383 | 73.0 | .72964 | 68.4 | .83495 | 46.3 | .86311 | 40.7 | 43 08 37.40 |
| .754 | .68456 | 72.9 | .72896 | 68.5 | .83541 | 46.2 | .86270 | 40.8 | 43 12 03.66 |
| 0.755 | 0.68529 | 72.8 | 0.72827 | 68.5 | 9.83587 | 46.2 | 9.86229 | 40.9 | 43 15 29.93 |
| .756 | .68602 | 72.8 | .72759 | 68.6 | .83633 | 46.1 | .86188 | 40.9 | 43 18 56.19 |
| .757 | .68674 | 72.7 | .72690 | 68.7 | .83679 | 46.0 | .86147 | 41.0 | 43 22 22.46 |
| .758 | .68747 | 72.6 | .72621 | 68.7 | .83725 | 45.9 | .86106 | 41.1 | 43 25 48.72 |
| .759 | .68820 | 72.6 | .72552 | 68.8 | .83771 | 45.8 | .86065 | 41.2 | 43 29 14.99 |
| 0.760 | 0.68892 | 72.5 | 0.72484 | 68.9 | 9.83817 | 45.7 | 9.86024 | 41.3 | 43 32 41.25 |
| .761 | .68965 | 72.4 | .72415 | 69.0 | .83863 | 45.6 | .85983 | 41.4 | 43 36 07.52 |
| .762 | .69037 | 72.3 | .72346 | 69.0 | .83908 | 45.5 | .85941 | 41.4 | 43 39 33.78 |
| .763 | .69109 | 72.3 | .72277 | 69.1 | .83954 | 45.4 | .85900 | 41.5 | 43 43 00.05 |
| .764 | .69182 | 72.2 | .72207 | 69.2 | .83999 | 45.3 | .85858 | 41.6 | 43 46 26.31 |
| 0.765 | 0.69254 | 72.1 | 0.72138 | 69.3 | 9.84044 | 45.2 | 9.85817 | 41.7 | 43 49 52.58 |
| .766 | .69326 | 72.1 | .72069 | 69.3 | .84089 | 45.1 | .85775 | 41.8 | 43 53 18.84 |
| .767 | .69398 | 72.0 | .72000 | 69.4 | .84135 | 45.1 | .85733 | 41.9 | 43 56 45.11 |
| .768 | .69470 | 71.9 | .71930 | 69.5 | .84180 | 45.0 | .85691 | 41.9 | 44 00 11.37 |
| .769 | .69542 | 71.9 | .71861 | 69.5 | .84225 | 44.9 | .85649 | 42.0 | 44 03 37.64 |
| 0.770 | 0.69614 | 71.8 | 0.71791 | 69.6 | 9.84269 | 44.8 | 9.85607 | 42.1 | 44 07 03.90 |
| .771 | .69685 | 71.7 | .71721 | 69.7 | .84314 | 44.7 | .85565 | 42.2 | 44 10 30.17 |
| .772 | .69757 | 71.7 | .71652 | 69.8 | .84359 | 44.6 | .85523 | 42.3 | 44 13 56.43 |
| .773 | .69829 | 71.6 | .71582 | 69.8 | .84403 | 44.5 | .85480 | 42.4 | 44 17 22.70 |
| .774 | .69900 | 71.5 | .71512 | 69.9 | .84448 | 44.4 | .85438 | 42.5 | 44 20 48.96 |
| 0.775 | 0.69972 | 71.4 | 0.71442 | 70.0 | 9.84492 | 44.3 | 9.85395 | 42.5 | 44 24 15.22 |
| .776 | .70043 | 71.4 | .71372 | 70.0 | .84536 | 44.3 | .85353 | 42.6 | 44 27 41.49 |
| .777 | .70114 | 71.3 | .71302 | 70.1 | .84581 | 44.2 | .85310 | 42.7 | 44 31 07.75 |
| .778 | .70186 | 71.2 | .71232 | 70.2 | .84625 | 44.1 | .85267 | 42.8 | 44 34 34.02 |
| .779 | .70257 | 71.2 | .71162 | 70.3 | .84669 | 44.0 | .85225 | 42.9 | 44 38 00.28 |
| 0.780 | 0.70328 | 71.1 | 0.71091 | 70.3 | 9.84713 | 43.9 | 9.85182 | 43.0 | 44 41 26.55 |
| .781 | .70399 | 71.0 | .71021 | 70.4 | .84757 | 43.8 | .85139 | 43.0 | 44 44 52.81 |
| .782 | .70470 | 71.0 | .70951 | 70.5 | .84800 | 43.7 | .85096 | 43.1 | 44 48 19.08 |
| .783 | .70541 | 70.9 | .70880 | 70.5 | .84844 | 43.6 | .85052 | 43.2 | 44 51 45.34 |
| .784 | .70612 | 70.8 | .70809 | 70.6 | .84888 | 43.6 | .85009 | 43.3 | 44 55 11.61 |
| 0.785 | 0.70683 | 70.7 | 0.70739 | 70.7 | 9.84931 | 43.5 | 9.84966 | 43.4 | 44 58 37.87 |
| .786 | .70753 | 70.7 | .70668 | 70.8 | .84975 | 43.4 | .84922 | 43.5 | 45 02 04.14 |
| .787 | .70824 | 70.6 | .70597 | 70.8 | .85018 | 43.3 | .84879 | 43.6 | 45 05 30.40 |
| .788 | .70894 | 70.5 | .70526 | 70.9 | .85061 | 43.2 | .84835 | 43.7 | 45 08 56.67 |
| .789 | .70965 | 70.5 | .70456 | 71.0 | .85104 | 43.1 | .84792 | 43.7 | 45 12 22.93 |
| 0.790 | 0.71035 | 70.4 | 0.70385 | 71.0 | 9.85147 | 43.0 | 9.84748 | 43.8 | 45 15 49.20 |
| .791 | .71106 | 70.3 | .70313 | 71.1 | .85190 | 42.9 | .84704 | 43.9 | 45 19 15.46 |
| .792 | .71176 | 70.2 | .70242 | 71.2 | .85233 | 42.9 | .84660 | 44.0 | 45 22 41.73 |
| .793 | .71246 | 70.2 | .70171 | 71.2 | .85276 | 42.8 | .84616 | 44.1 | 45 26 07.99 |
| .794 | .71316 | 70.1 | .70100 | 71.3 | .85319 | 42.7 | .84572 | 44.2 | 45 29 34.26 |
| 0.795 | 0.71386 | 70.0 | 0.70028 | 71.4 | 9.85362 | 42.6 | 9.84527 | 44.3 | 45 33 00.52 |
| .796 | .71456 | 70.0 | .69957 | 71.5 | .85404 | 42.5 | .84483 | 44.4 | 45 36 26.79 |
| .797 | .71526 | 69.9 | .69886 | 71.5 | .85447 | 42.4 | .84439 | 44.4 | 45 39 53.05 |
| .798 | .71596 | 69.8 | .69814 | 71.6 | .85489 | 42.3 | .84394 | 44.5 | 45 43 19.32 |
| .799 | .71666 | 69.7 | .69742 | 71.7 | .85531 | 42.3 | .84350 | 44.6 | 45 46 45.58 |
| 0.800 | 0.71736 | 69.7 | 0.69671 | 71.7 | 9.85573 | 42.2 | 9.84305 | 44.7 | 45 50 11.84 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| 0.800 | 0.71736 | 69,7 | 0.69671 | 71,7 | 9.85573 | 42,2 | 9.84305 | 44,7 | 45° 50' 11.84 |
| .801 | .71805 | 69,6 | .69599 | 71,8 | .85616 | 42,1 | .84200 | 44,8 | 45 53 38.11 |
| .802 | .71875 | 69,5 | .69527 | 71,9 | .85658 | 42,0 | .84215 | 44,9 | 45 57 04.37 |
| .803 | .71944 | 69,5 | .69455 | 71,9 | .85700 | 41,9 | .84170 | 45,0 | 46 00 30.64 |
| .804 | .72014 | 69,4 | .69383 | 72,0 | .85742 | 41,8 | .84125 | 45,1 | 46 03 56.90 |
| 0.805 | 0.72083 | 69,3 | 0.69311 | 72,1 | 9.85783 | 41,8 | 9.84080 | 45,2 | 46 07 23.17 |
| .806 | .72152 | 69,2 | .69239 | 72,2 | .85825 | 41,7 | .84035 | 45,3 | 46 10 49.43 |
| .807 | .72222 | 69,2 | .69167 | 72,2 | .85867 | 41,6 | .83990 | 45,3 | 46 14 15.70 |
| .808 | .72291 | 69,1 | .69095 | 72,3 | .85908 | 41,5 | .83944 | 45,4 | 46 17 41.96 |
| .809 | .72360 | 69,0 | .69022 | 72,4 | .85950 | 41,4 | .83899 | 45,5 | 46 21 08.23 |
| 0.810 | 0.72429 | 68,9 | 0.68950 | 72,4 | 9.85991 | 41,3 | 9.83853 | 45,6 | 46 24 34.49 |
| .811 | .72498 | 68,9 | .68877 | 72,5 | .86032 | 41,3 | .83808 | 45,7 | 46 28 00.76 |
| .812 | .72566 | 68,8 | .68805 | 72,6 | .86074 | 41,2 | .83762 | 45,8 | 46 31 27.02 |
| .813 | .72635 | 68,7 | .68732 | 72,6 | .86115 | 41,1 | .83716 | 45,9 | 46 34 53.29 |
| .814 | .72704 | 68,7 | .68660 | 72,7 | .86156 | 41,0 | .83670 | 46,0 | 46 38 19.55 |
| 0.815 | 0.72773 | 68,6 | 0.68587 | 72,8 | 9.86197 | 40,9 | 9.83624 | 46,1 | 46 41 45.82 |
| .816 | .72841 | 68,5 | .68514 | 72,8 | .86238 | 40,8 | .83578 | 46,2 | 46 45 12.08 |
| .817 | .72910 | 68,4 | .68441 | 72,9 | .86278 | 40,8 | .83532 | 46,3 | 46 48 38.35 |
| .818 | .72978 | 68,4 | .68368 | 73,0 | .86319 | 40,7 | .83485 | 46,4 | 46 52 04.61 |
| .819 | .73046 | 68,3 | .68295 | 73,0 | .86360 | 40,6 | .83439 | 46,5 | 46 55 30.88 |
| 0.820 | 0.73115 | 68,2 | 0.68222 | 73,1 | 9.86400 | 40,5 | 9.83393 | 46,5 | 46 58 57.14 |
| .821 | .73183 | 68,1 | .68149 | 73,2 | .86441 | 40,4 | .83346 | 46,6 | 47 02 23.41 |
| .822 | .73251 | 68,1 | .68076 | 73,3 | .86481 | 40,4 | .83299 | 46,7 | 47 05 49.67 |
| .823 | .73319 | 68,0 | .68002 | 73,3 | .86522 | 40,3 | .83252 | 46,8 | 47 09 15.94 |
| .824 | .73387 | 67,9 | .67929 | 73,4 | .86562 | 40,2 | .83206 | 46,9 | 47 12 42.20 |
| 0.825 | 0.73455 | 67,9 | 0.67856 | 73,5 | 9.86602 | 40,1 | 9.83159 | 47,0 | 47 16 08.47 |
| .826 | .73523 | 67,8 | .67782 | 73,5 | .86642 | 40,0 | .83112 | 47,1 | 47 19 34.73 |
| .827 | .73590 | 67,7 | .67709 | 73,6 | .86682 | 40,0 | .83064 | 47,2 | 47 23 00.99 |
| .828 | .73658 | 67,6 | .67635 | 73,7 | .86722 | 39,9 | .83017 | 47,3 | 47 26 27.26 |
| .829 | .73726 | 67,6 | .67561 | 73,7 | .86762 | 39,8 | .82970 | 47,4 | 47 29 53.52 |
| 0.830 | 0.73793 | 67,5 | 0.67488 | 73,8 | 9.86802 | 39,7 | 9.82922 | 47,5 | 47 33 19.79 |
| .831 | .73861 | 67,4 | .67414 | 73,9 | .86841 | 39,6 | .82875 | 47,6 | 47 36 46.05 |
| .832 | .73928 | 67,3 | .67340 | 73,9 | .86881 | 39,6 | .82827 | 47,7 | 47 40 12.32 |
| .833 | .73995 | 67,3 | .67266 | 74,0 | .86920 | 39,5 | .82779 | 47,8 | 47 43 38.58 |
| .834 | .74062 | 67,2 | .67192 | 74,1 | .86960 | 39,4 | .82732 | 47,9 | 47 47 04.85 |
| 0.835 | 0.74130 | 67,1 | 0.67118 | 74,1 | 9.86999 | 39,3 | 9.82684 | 48,0 | 47 50 31.11 |
| .836 | .74197 | 67,0 | .67044 | 74,2 | .87038 | 39,2 | .82636 | 48,1 | 47 53 57.38 |
| .837 | .74264 | 67,0 | .66969 | 74,3 | .87078 | 39,2 | .82588 | 48,2 | 47 57 23.64 |
| .838 | .74331 | 66,9 | .66895 | 74,3 | .87117 | 39,1 | .82539 | 48,3 | 48 00 49.91 |
| .839 | .74398 | 66,8 | .66821 | 74,4 | .87156 | 39,0 | .82491 | 48,4 | 48 04 16.17 |
| 0.840 | 0.74464 | 66,7 | 0.66746 | 74,5 | 9.87195 | 38,9 | 9.82443 | 48,5 | 48 07 42.44 |
| .841 | .74531 | 66,7 | .66672 | 74,5 | .87234 | 38,8 | .82394 | 48,5 | 48 11 08.70 |
| .842 | .74598 | 66,6 | .66597 | 74,6 | .87273 | 38,8 | .82346 | 48,6 | 48 14 34.97 |
| .843 | .74664 | 66,5 | .66523 | 74,7 | .87311 | 38,7 | .82297 | 48,7 | 48 18 01.23 |
| .844 | .74731 | 66,4 | .66448 | 74,7 | .87350 | 38,6 | .82248 | 48,8 | 48 21 27.50 |
| 0.845 | 0.74797 | 66,4 | 0.66373 | 74,8 | 9.87388 | 38,5 | 9.82199 | 48,9 | 48 24 53.76 |
| .846 | .74863 | 66,3 | .66298 | 74,9 | .87427 | 38,5 | .82150 | 49,0 | 48 28 20.03 |
| .847 | .74930 | 66,2 | .66223 | 74,9 | .87465 | 38,4 | .82101 | 49,1 | 48 31 46.29 |
| .848 | .74996 | 66,1 | .66148 | 75,0 | .87504 | 38,4 | .82052 | 49,2 | 48 35 12.56 |
| .849 | .75062 | 66,1 | .66073 | 75,1 | .87542 | 38,2 | .82003 | 49,3 | 48 38 38.82 |
| 0.850 | 0.75128 | 66,0 | 0.65998 | 75,1 | 9.87580 | 38,2 | 9.81953 | 49,4 | 48 42 05.09 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|----------------|
| 0.850 | 0.75128 | 66,0 | 0.65998 | 75,1 | 9.87580 | 38,2 | 9.81953 | 49,4 | 48° 42' 05".09 |
| .851 | .75194 | 65,9 | .65923 | 75,2 | .87618 | 38,1 | .81904 | 49,5 | 48 45 31.35 |
| .852 | .75260 | 65,8 | .65848 | 75,3 | .87656 | 38,0 | .81854 | 49,6 | 48 48 57.61 |
| .853 | .75326 | 65,8 | .65773 | 75,3 | .87694 | 37,9 | .81805 | 49,7 | 48 52 23.88 |
| .854 | .75391 | 65,7 | .65697 | 75,4 | .87732 | 37,8 | .81755 | 49,8 | 48 55 50.14 |
| 0.855 | 0.75457 | 65,6 | 0.65622 | 75,5 | 9.87770 | 37,8 | 9.81705 | 49,9 | 48 59 16.41 |
| .856 | .75523 | 65,5 | .65546 | 75,5 | .87808 | 37,7 | .81655 | 50,0 | 49 02 42.67 |
| .857 | .75588 | 65,5 | .65471 | 75,6 | .87845 | 37,6 | .81605 | 50,1 | 49 06 08.94 |
| .858 | .75654 | 65,4 | .65395 | 75,7 | .87883 | 37,5 | .81555 | 50,2 | 49 09 35.20 |
| .859 | .75719 | 65,3 | .65320 | 75,7 | .87920 | 37,5 | .81504 | 50,3 | 49 13 01.47 |
| 0.860 | 0.75784 | 65,2 | 0.65244 | 75,8 | 9.87958 | 37,4 | 9.81454 | 50,4 | 49 16 27.73 |
| .861 | .75849 | 65,2 | .65168 | 75,8 | .87995 | 37,3 | .81403 | 50,5 | 49 19 54.00 |
| .862 | .75915 | 65,1 | .65092 | 75,9 | .88033 | 37,2 | .81353 | 50,7 | 49 23 20.26 |
| .863 | .75980 | 65,0 | .65016 | 76,0 | .88070 | 37,2 | .81302 | 50,8 | 49 26 46.53 |
| .864 | .76045 | 64,9 | .64940 | 76,0 | .88107 | 37,1 | .81251 | 50,9 | 49 30 12.79 |
| 0.865 | 0.76110 | 64,9 | 0.64864 | 76,1 | 9.88144 | 37,0 | 9.81200 | 51,0 | 49 33 39.06 |
| .866 | .76174 | 64,8 | .64788 | 76,2 | .88181 | 36,9 | .81149 | 51,1 | 49 37 05.32 |
| .867 | .76239 | 64,7 | .64712 | 76,2 | .88218 | 36,9 | .81098 | 51,2 | 49 40 31.59 |
| .868 | .76304 | 64,6 | .64635 | 76,3 | .88255 | 36,8 | .81047 | 51,3 | 49 43 57.85 |
| .869 | .76368 | 64,6 | .64559 | 76,4 | .88291 | 36,7 | .80996 | 51,4 | 49 47 24.12 |
| 0.870 | 0.76433 | 64,5 | 0.64483 | 76,4 | 9.88328 | 36,6 | 9.80944 | 51,5 | 49 50 50.38 |
| .871 | .76497 | 64,4 | .64406 | 76,5 | .88365 | 36,6 | .80893 | 51,6 | 49 54 16.65 |
| .872 | .76562 | 64,3 | .64330 | 76,6 | .88401 | 36,5 | .80841 | 51,7 | 49 57 42.91 |
| .873 | .76626 | 64,3 | .64253 | 76,6 | .88438 | 36,4 | .80789 | 51,8 | 50 01 09.18 |
| .874 | .76690 | 64,2 | .64176 | 76,7 | .88474 | 36,3 | .80738 | 51,9 | 50 04 35.44 |
| 0.875 | 0.76754 | 64,1 | 0.64100 | 76,8 | 9.88510 | 36,3 | 9.80686 | 52,0 | 50 08 01.71 |
| .876 | .76818 | 64,0 | .64023 | 76,8 | .88547 | 36,2 | .80634 | 52,1 | 50 11 27.97 |
| .877 | .76882 | 63,9 | .63946 | 76,9 | .88583 | 36,1 | .80581 | 52,2 | 50 14 54.24 |
| .878 | .76946 | 63,9 | .63869 | 76,9 | .88619 | 36,0 | .80529 | 52,3 | 50 18 20.50 |
| .879 | .77010 | 63,8 | .63792 | 77,0 | .88655 | 36,0 | .80477 | 52,4 | 50 21 46.76 |
| 0.880 | 0.77074 | 63,7 | 0.63715 | 77,1 | 9.88691 | 35,9 | 9.80424 | 52,5 | 50 25 13.03 |
| .881 | .77138 | 63,6 | .63638 | 77,1 | .88727 | 35,8 | .80372 | 52,6 | 50 28 39.29 |
| .882 | .77201 | 63,6 | .63561 | 77,2 | .88762 | 35,8 | .80319 | 52,7 | 50 32 05.56 |
| .883 | .77265 | 63,5 | .63484 | 77,3 | .88798 | 35,7 | .80266 | 52,9 | 50 35 31.82 |
| .884 | .77328 | 63,4 | .63406 | 77,3 | .88834 | 35,6 | .80213 | 53,0 | 50 38 58.09 |
| 0.885 | 0.77391 | 63,3 | 0.63329 | 77,4 | 9.88869 | 35,5 | 9.80160 | 53,1 | 50 42 24.35 |
| .886 | .77455 | 63,3 | .63252 | 77,5 | .88905 | 35,5 | .80107 | 53,2 | 50 45 50.62 |
| .887 | .77518 | 63,2 | .63174 | 77,5 | .88940 | 35,4 | .80051 | 53,3 | 50 49 16.88 |
| .888 | .77581 | 63,1 | .63096 | 77,6 | .88976 | 35,3 | .80001 | 53,4 | 50 52 43.15 |
| .889 | .77644 | 63,0 | .63019 | 77,6 | .89011 | 35,2 | .79947 | 53,5 | 50 56 09.41 |
| 0.890 | 0.77707 | 62,9 | 0.62941 | 77,7 | 9.89046 | 35,2 | 9.79894 | 53,6 | 50 59 35.68 |
| .891 | .77770 | 62,9 | .62863 | 77,8 | .89081 | 35,1 | .79840 | 53,7 | 51 03 01.94 |
| .892 | .77833 | 62,8 | .62786 | 77,8 | .89116 | 35,0 | .79786 | 53,8 | 51 06 28.21 |
| .893 | .77896 | 62,7 | .62708 | 77,9 | .89151 | 35,0 | .79732 | 53,9 | 51 09 54.47 |
| .894 | .77958 | 62,6 | .62630 | 78,0 | .89186 | 34,9 | .79678 | 54,1 | 51 13 20.74 |
| 0.895 | 0.78021 | 62,6 | 0.62552 | 78,0 | 9.89221 | 34,8 | 9.79624 | 54,2 | 51 16 47.00 |
| .896 | .78083 | 62,5 | .62474 | 78,1 | .89256 | 34,7 | .79570 | 54,3 | 51 20 13.27 |
| .897 | .78146 | 62,4 | .62396 | 78,1 | .89291 | 34,7 | .79515 | 54,4 | 51 23 39.53 |
| .898 | .78208 | 62,3 | .62318 | 78,2 | .89325 | 34,6 | .79461 | 54,5 | 51 27 05.80 |
| .899 | .78270 | 62,2 | .62239 | 78,3 | .89360 | 34,5 | .79406 | 54,6 | 51 30 32.06 |
| 0.900 | 0.78333 | 62,2 | 0.62161 | 78,3 | 9.89394 | 34,5 | 9.79352 | 54,7 | 51 33 58.33 |
| u | -i sinh lu | $\omega F_0'$ | cosh lu | $\omega F_0'$ | log $\frac{\sinh lu}{l}$ | $\omega F_0'$ | log cosh lu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|-----------|---------------|---------|---------------|--------------------------|---------------|------------|---------------|---------------|
| 0.900 | 0.78333 | 62,2 | 0.62161 | 78,3 | 9.89394 | 34,5 | 9.79352 | 54,7 | 51° 33' 58.33 |
| .901 | .78395 | 62,1 | .62083 | 78,4 | .89429 | 34,4 | .79297 | 54,8 | 51 37 24.59 |
| .902 | .78457 | 62,0 | .62004 | 78,5 | .89463 | 34,3 | .79242 | 55,0 | 51 40 50.86 |
| .903 | .78519 | 61,9 | .61926 | 78,5 | .89497 | 34,3 | .79187 | 55,1 | 51 44 17.12 |
| .904 | .78581 | 61,8 | .61847 | 78,6 | .89532 | 34,2 | .79132 | 55,2 | 51 47 43.38 |
| 0.905 | 0.78643 | 61,8 | 0.61769 | 78,6 | 9.89566 | 34,1 | 9.79077 | 55,3 | 51 51 09.65 |
| .906 | .78704 | 61,7 | .61690 | 78,7 | .89600 | 34,0 | .79021 | 55,4 | 51 54 35.91 |
| .907 | .78766 | 61,6 | .61611 | 78,8 | .89634 | 34,0 | .78966 | 55,5 | 51 58 02.18 |
| .908 | .78827 | 61,5 | .61532 | 78,8 | .89668 | 33,9 | .78910 | 55,6 | 52 01 28.44 |
| .909 | .78889 | 61,5 | .61453 | 78,9 | .89702 | 33,8 | .78855 | 55,8 | 52 04 54.71 |
| 0.910 | 0.78950 | 61,4 | 0.61375 | 79,0 | 9.89735 | 33,8 | 9.78799 | 55,9 | 52 08 20.97 |
| .911 | .79012 | 61,3 | .61296 | 79,0 | .89769 | 33,7 | .78743 | 56,0 | 52 11 47.24 |
| .912 | .79073 | 61,2 | .61217 | 79,1 | .89803 | 33,6 | .78687 | 56,1 | 52 15 13.50 |
| .913 | .79134 | 61,1 | .61137 | 79,1 | .89836 | 33,6 | .78631 | 56,2 | 52 18 39.77 |
| .914 | .79195 | 61,1 | .61058 | 79,2 | .89870 | 33,5 | .78574 | 56,3 | 52 22 06.03 |
| 0.915 | 0.79256 | 61,0 | 0.60979 | 79,3 | 9.89903 | 33,4 | 9.78518 | 56,4 | 52 25 32.30 |
| .916 | .79317 | 60,9 | .60900 | 79,3 | .89937 | 33,3 | .78462 | 56,6 | 52 28 58.56 |
| .917 | .79378 | 60,8 | .60820 | 79,4 | .89970 | 33,3 | .78405 | 56,7 | 52 32 24.83 |
| .918 | .79439 | 60,7 | .60741 | 79,4 | .90003 | 33,2 | .78348 | 56,8 | 52 35 51.09 |
| .919 | .79500 | 60,7 | .60662 | 79,5 | .90036 | 33,1 | .78291 | 56,9 | 52 39 17.36 |
| 0.920 | 0.79560 | 60,6 | 0.60582 | 79,6 | 9.90070 | 33,1 | 9.78234 | 57,0 | 52 42 43.62 |
| .921 | .79621 | 60,5 | .60502 | 79,6 | .90103 | 33,0 | .78177 | 57,2 | 52 46 09.89 |
| .922 | .79681 | 60,4 | .60423 | 79,7 | .90136 | 32,9 | .78120 | 57,3 | 52 49 36.15 |
| .923 | .79742 | 60,3 | .60343 | 79,7 | .90168 | 32,9 | .78063 | 57,4 | 52 53 02.42 |
| .924 | .79802 | 60,3 | .60263 | 79,8 | .90201 | 32,8 | .78005 | 57,5 | 52 56 28.68 |
| 0.925 | 0.79862 | 60,2 | 0.60183 | 79,9 | 9.90234 | 32,7 | 9.77948 | 57,6 | 52 59 54.95 |
| .926 | .79922 | 60,1 | .60104 | 79,9 | .90267 | 32,7 | .77890 | 57,7 | 53 03 21.21 |
| .927 | .79982 | 60,0 | .60024 | 80,0 | .90299 | 32,6 | .77832 | 57,9 | 53 06 47.48 |
| .928 | .80042 | 59,9 | .59944 | 80,0 | .90332 | 32,5 | .77774 | 58,0 | 53 10 13.74 |
| .929 | .80102 | 59,9 | .59864 | 80,1 | .90364 | 32,5 | .77716 | 58,1 | 53 13 40.01 |
| 0.930 | 0.80162 | 59,8 | 0.59783 | 80,2 | 9.90397 | 32,4 | 9.77658 | 58,2 | 53 17 06.27 |
| .931 | .80222 | 59,7 | .59703 | 80,2 | .90429 | 32,3 | .77600 | 58,4 | 53 20 32.53 |
| .932 | .80281 | 59,6 | .59623 | 80,3 | .90461 | 32,3 | .77541 | 58,5 | 53 23 58.80 |
| .933 | .80341 | 59,5 | .59543 | 80,3 | .90494 | 32,2 | .77483 | 58,6 | 53 27 25.06 |
| .934 | .80400 | 59,5 | .59462 | 80,4 | .90526 | 32,1 | .77424 | 58,7 | 53 30 51.33 |
| 0.935 | 0.80460 | 59,4 | 0.59382 | 80,5 | 9.90558 | 32,1 | 9.77365 | 58,8 | 53 34 17.59 |
| .936 | .80519 | 59,3 | .59301 | 80,5 | .90590 | 32,0 | .77306 | 59,0 | 53 37 43.86 |
| .937 | .80579 | 59,2 | .59221 | 80,6 | .90622 | 31,9 | .77247 | 59,1 | 53 41 10.12 |
| .938 | .80638 | 59,1 | .59140 | 80,6 | .90654 | 31,9 | .77188 | 59,2 | 53 44 36.39 |
| .939 | .80697 | 59,1 | .59060 | 80,7 | .90686 | 31,8 | .77129 | 59,3 | 53 48 02.65 |
| 0.940 | 0.80756 | 59,0 | 0.58979 | 80,8 | 9.90717 | 31,7 | 9.77070 | 59,5 | 53 51 28.92 |
| .941 | .80815 | 58,9 | .58898 | 80,8 | .90749 | 31,7 | .77010 | 59,6 | 53 54 55.18 |
| .942 | .80874 | 58,8 | .58817 | 80,9 | .90781 | 31,6 | .76950 | 59,7 | 53 58 21.45 |
| .943 | .80932 | 58,7 | .58736 | 80,9 | .90812 | 31,5 | .76891 | 59,8 | 54 01 47.71 |
| .944 | .80991 | 58,7 | .58655 | 81,0 | .90844 | 31,5 | .76831 | 60,0 | 54 05 13.98 |
| 0.945 | 0.81050 | 58,6 | 0.58574 | 81,0 | 9.90875 | 31,4 | 9.76771 | 60,1 | 54 08 40.24 |
| .946 | .81108 | 58,5 | .58493 | 81,1 | .90906 | 31,3 | .76711 | 60,2 | 54 12 06.51 |
| .947 | .81167 | 58,4 | .58412 | 81,2 | .90938 | 31,3 | .76650 | 60,3 | 54 15 32.77 |
| .948 | .81225 | 58,3 | .58331 | 81,2 | .90969 | 31,2 | .76590 | 60,5 | 54 18 59.04 |
| .949 | .81283 | 58,2 | .58250 | 81,3 | .91000 | 31,1 | .76529 | 60,6 | 54 22 25.30 |
| 0.950 | 0.81342 | 58,2 | 0.58168 | 81,3 | 9.91031 | 31,1 | 9.76469 | 60,7 | 54 25 51.57 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|-------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|----------------|
| 0.950 | 0.81342 | 58,2 | 0.58168 | 81,3 | 9.91031 | 31,1 | 9.76469 | 60,7 | 54° 25' 51".57 |
| .951 | .81400 | 58,1 | .58087 | 81,4 | .91062 | 31,0 | .76408 | 60,9 | 54 29 17.83 |
| .952 | .81458 | 58,0 | .58006 | 81,5 | .91093 | 30,9 | .76347 | 61,0 | 54 32 44.10 |
| .953 | .81516 | 57,9 | .57924 | 81,5 | .91124 | 30,9 | .76286 | 61,1 | 54 36 10.36 |
| .954 | .81574 | 57,8 | .57842 | 81,6 | .91155 | 30,8 | .76225 | 61,2 | 54 39 36.63 |
| 0.955 | 0.81631 | 57,8 | 0.57761 | 81,6 | 9.91186 | 30,7 | 9.76163 | 61,4 | 54 43 02.89 |
| .956 | .81689 | 57,7 | .57679 | 81,7 | .91216 | 30,7 | .76102 | 61,5 | 54 46 29.15 |
| .957 | .81747 | 57,6 | .57597 | 81,7 | .91247 | 30,6 | .76040 | 61,6 | 54 49 55.42 |
| .958 | .81804 | 57,5 | .57516 | 81,8 | .91278 | 30,5 | .75979 | 61,8 | 54 53 21.68 |
| .959 | .81862 | 57,4 | .57434 | 81,9 | .91308 | 30,5 | .75917 | 61,9 | 54 56 47.95 |
| 0.960 | 0.81919 | 57,4 | 0.57352 | 81,9 | 9.91339 | 30,4 | 9.75855 | 62,0 | 55 00 14.21 |
| .961 | 0.81976 | 57,3 | .57270 | 82,0 | .91369 | 30,3 | .75793 | 62,2 | 55 03 40.48 |
| .962 | .82034 | 57,2 | .57188 | 82,0 | .91399 | 30,3 | .75731 | 62,3 | 55 07 06.74 |
| .963 | .82091 | 57,1 | .57106 | 82,1 | .91429 | 30,2 | .75668 | 62,4 | 55 10 33.01 |
| .964 | .82148 | 57,0 | .57024 | 82,1 | .91460 | 30,1 | .75606 | 62,6 | 55 13 59.27 |
| 0.965 | 0.82205 | 56,9 | 0.56942 | 82,2 | 9.91490 | 30,1 | 9.75543 | 62,7 | 55 17 25.54 |
| .966 | .82262 | 56,9 | .56859 | 82,3 | .91520 | 30,0 | .75480 | 62,8 | 55 20 51.80 |
| .967 | .82319 | 56,8 | .56777 | 82,3 | .91550 | 29,9 | .75417 | 63,0 | 55 24 18.07 |
| .968 | .82375 | 56,7 | .56695 | 82,4 | .91580 | 29,9 | .75354 | 63,1 | 55 27 44.33 |
| .969 | .82432 | 56,6 | .56612 | 82,4 | .91610 | 29,8 | .75291 | 63,2 | 55 31 10.60 |
| 0.970 | 0.82489 | 56,5 | 0.56530 | 82,5 | 9.91639 | 29,8 | 9.75228 | 63,4 | 55 34 36.86 |
| .971 | .82545 | 56,4 | .56447 | 82,5 | .91669 | 29,7 | .75164 | 63,5 | 55 38 03.13 |
| .972 | .82601 | 56,4 | .56365 | 82,6 | .91699 | 29,6 | .75101 | 63,6 | 55 41 29.39 |
| .973 | .82658 | 56,3 | .56282 | 82,7 | .91728 | 29,6 | .75037 | 63,8 | 55 44 55.66 |
| .974 | .82714 | 56,2 | .56200 | 82,7 | .91758 | 29,5 | .74973 | 63,9 | 55 48 21.92 |
| 0.975 | 0.82770 | 56,1 | 0.56117 | 82,8 | 9.91787 | 29,4 | 9.74909 | 64,1 | 55 51 48.19 |
| .976 | .82826 | 56,0 | .56034 | 82,8 | .91817 | 29,4 | .74845 | 64,2 | 55 55 14.45 |
| .977 | .82882 | 56,0 | .55951 | 82,9 | .91846 | 29,3 | .74781 | 64,3 | 55 58 40.72 |
| .978 | .82938 | 55,9 | .55868 | 82,9 | .91875 | 29,2 | .74717 | 64,5 | 56 02 06.98 |
| .979 | .82994 | 55,8 | .55785 | 83,0 | .91905 | 29,2 | .74652 | 64,6 | 56 05 33.25 |
| 0.980 | 0.83050 | 55,7 | 0.55702 | 83,0 | 9.91934 | 29,1 | 9.74587 | 64,8 | 56 08 59.51 |
| .981 | .83105 | 55,6 | .55619 | 83,1 | .91963 | 29,1 | .74522 | 64,9 | 56 12 25.77 |
| .982 | .83161 | 55,5 | .55536 | 83,2 | .91992 | 29,0 | .74457 | 65,0 | 56 15 52.04 |
| .983 | .83216 | 55,5 | .55453 | 83,2 | .92021 | 28,9 | .74392 | 65,2 | 56 19 18.30 |
| .984 | .83272 | 55,4 | .55370 | 83,3 | .92050 | 28,9 | .74327 | 65,3 | 56 22 44.57 |
| 0.985 | 0.83327 | 55,3 | 0.55286 | 83,3 | 9.92079 | 28,8 | 9.74262 | 65,5 | 56 26 10.83 |
| .986 | .83382 | 55,2 | .55203 | 83,4 | .92107 | 28,8 | .74196 | 65,6 | 56 29 37.10 |
| .987 | .83438 | 55,1 | .55120 | 83,4 | .92136 | 28,7 | .74131 | 65,7 | 56 33 03.36 |
| .988 | .83493 | 55,0 | .55036 | 83,5 | .92165 | 28,6 | .74065 | 65,9 | 56 36 29.63 |
| .989 | .83548 | 55,0 | .54953 | 83,5 | .92193 | 28,6 | .73999 | 66,0 | 56 39 55.89 |
| 0.990 | 0.83603 | 54,9 | 0.54869 | 83,6 | 9.92222 | 28,5 | 9.73933 | 66,2 | 56 43 22.16 |
| .991 | .83657 | 54,8 | .54785 | 83,7 | .92250 | 28,4 | .73866 | 66,3 | 56 46 48.42 |
| .992 | .83712 | 54,7 | .54702 | 83,7 | .92279 | 28,4 | .73800 | 66,5 | 56 50 14.69 |
| .993 | .83767 | 54,6 | .54618 | 83,8 | .92307 | 28,3 | .73734 | 66,6 | 56 53 40.95 |
| .994 | .83821 | 54,5 | .54534 | 83,8 | .92335 | 28,3 | .73667 | 66,8 | 56 57 07.22 |
| 0.995 | 0.83876 | 54,5 | 0.54450 | 83,9 | 9.92364 | 28,2 | 9.73600 | 66,9 | 57 00 33.48 |
| .996 | .83930 | 54,4 | .54366 | 83,9 | .92392 | 28,1 | .73533 | 67,0 | 57 03 59.75 |
| .997 | .83985 | 54,3 | .54282 | 84,0 | .92420 | 28,1 | .73466 | 67,2 | 57 07 26.01 |
| .998 | .84039 | 54,2 | .54198 | 84,0 | .92448 | 28,0 | .73399 | 67,3 | 57 10 52.28 |
| .999 | .84093 | 54,1 | .54114 | 84,1 | .92476 | 27,9 | .73331 | 67,5 | 57 14 18.54 |
| 1.000 | 0.84147 | 54,0 | 0.54030 | 84,1 | 9.92504 | 27,9 | 9.73264 | 67,6 | 57 17 44.81 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|----------------|
| I. 000 | 0.84147 | 54,0 | 0.54030 | 84,1 | 9.92504 | 27,9 | 9.73264 | 67,6 | 57° 17' 44".81 |
| .001 | .84201 | 53,9 | .53946 | 84,2 | .92532 | 27,8 | .73196 | 67,8 | 57 21 11.07 |
| .002 | .84255 | 53,9 | .53862 | 84,3 | .92560 | 27,8 | .73128 | 67,9 | 57 24 37.34 |
| .003 | .84309 | 53,8 | .53778 | 84,3 | .92587 | 27,7 | .73060 | 68,1 | 57 28 03.60 |
| .004 | .84363 | 53,7 | .53693 | 84,4 | .92615 | 27,6 | .72992 | 68,2 | 57 31 29.87 |
| I. 005 | 0.84416 | 53,6 | 0.53609 | 84,4 | 9.92643 | 27,6 | 9.72924 | 68,4 | 57 34 56.13 |
| .006 | .84470 | 53,5 | .53524 | 84,5 | .92670 | 27,5 | .72855 | 68,5 | 57 38 22.40 |
| .007 | .84523 | 53,4 | .53440 | 84,5 | .92698 | 27,5 | .72787 | 68,7 | 57 41 48.66 |
| .008 | .84577 | 53,4 | .53355 | 84,6 | .92725 | 27,4 | .72718 | 68,8 | 57 45 14.92 |
| .009 | .84630 | 53,3 | .53271 | 84,6 | .92752 | 27,3 | .72649 | 69,0 | 57 48 41.19 |
| I. 010 | 0.84683 | 53,2 | 0.53186 | 84,7 | 9.92780 | 27,3 | 9.72580 | 69,1 | 57 52 07.45 |
| .011 | .84736 | 53,1 | .53101 | 84,7 | .92807 | 27,2 | .72511 | 69,3 | 57 55 33.72 |
| .012 | .84789 | 53,0 | .53017 | 84,8 | .92834 | 27,2 | .72441 | 69,5 | 57 58 59.98 |
| .013 | .84842 | 52,9 | .52932 | 84,8 | .92861 | 27,1 | .72372 | 69,6 | 58 02 26.25 |
| .014 | .84895 | 52,8 | .52847 | 84,9 | .92888 | 27,0 | .72302 | 69,8 | 58 05 52.51 |
| I. 015 | 0.84948 | 52,8 | 0.52762 | 85,0 | 9.92915 | 27,0 | 9.72232 | 69,9 | 58 09 18.78 |
| .016 | .85001 | 52,7 | .52677 | 85,0 | .92942 | 26,9 | .72162 | 70,1 | 58 12 45.04 |
| .017 | .85053 | 52,6 | .52592 | 85,1 | .92969 | 26,9 | .72092 | 70,2 | 58 16 11.31 |
| .018 | .85106 | 52,5 | .52507 | 85,1 | .92996 | 26,8 | .72022 | 70,4 | 58 19 37.57 |
| .019 | .85158 | 52,4 | .52422 | 85,2 | .93023 | 26,7 | .71951 | 70,6 | 58 23 03.84 |
| I. 020 | 0.85211 | 52,3 | 0.52337 | 85,2 | 9.93049 | 26,7 | 9.71881 | 70,7 | 58 26 30.10 |
| .021 | .85263 | 52,3 | .52251 | 85,3 | .93076 | 26,6 | .71810 | 70,9 | 58 29 56.37 |
| .022 | .85315 | 52,2 | .52166 | 85,3 | .93103 | 26,6 | .71739 | 71,0 | 58 33 22.63 |
| .023 | .85367 | 52,1 | .52081 | 85,4 | .93129 | 26,5 | .71668 | 71,2 | 58 36 48.90 |
| .024 | .85419 | 52,0 | .51995 | 85,4 | .93156 | 26,4 | .71596 | 71,3 | 58 40 15.16 |
| I. 025 | 0.85471 | 51,9 | 0.51910 | 85,5 | 9.93182 | 26,4 | 9.71525 | 71,5 | 58 43 41.43 |
| .026 | .85523 | 51,8 | .51824 | 85,5 | .93208 | 26,3 | .71453 | 71,7 | 58 47 07.69 |
| .027 | .85575 | 51,7 | .51739 | 85,6 | .93235 | 26,3 | .71382 | 71,8 | 58 50 38.96 |
| .028 | .85627 | 51,7 | .51653 | 85,6 | .93261 | 26,2 | .71310 | 72,0 | 58 54 00.22 |
| .029 | .85678 | 51,6 | .51568 | 85,7 | .93287 | 26,1 | .71238 | 72,2 | 58 57 26.49 |
| I. 030 | 0.85730 | 51,5 | 0.51482 | 85,7 | 9.93313 | 26,1 | 9.71165 | 72,3 | 59 00 52.75 |
| .031 | .85781 | 51,4 | .51396 | 85,8 | .93339 | 26,0 | .71093 | 72,5 | 59 04 19.02 |
| .032 | .85833 | 51,3 | .51310 | 85,8 | .93365 | 26,0 | .71020 | 72,6 | 59 07 45.28 |
| .033 | .85884 | 51,2 | .51224 | 85,9 | .93391 | 25,9 | .70948 | 72,8 | 59 11 11.54 |
| .034 | .85935 | 51,1 | .51139 | 85,9 | .93417 | 25,8 | .70875 | 73,0 | 59 14 37.81 |
| I. 035 | 0.85986 | 51,1 | 0.51053 | 86,0 | 9.93443 | 25,8 | 9.70802 | 73,1 | 59 18 04.07 |
| .036 | .86037 | 51,0 | .50967 | 86,0 | .93469 | 25,7 | .70729 | 73,3 | 59 21 30.34 |
| .037 | .86088 | 50,9 | .50881 | 86,1 | .93494 | 25,7 | .70655 | 73,5 | 59 24 56.60 |
| .038 | .86139 | 50,8 | .50794 | 86,1 | .93520 | 25,6 | .70582 | 73,6 | 59 28 22.87 |
| .039 | .86190 | 50,7 | .50708 | 86,2 | .93546 | 25,6 | .70508 | 73,8 | 59 31 49.13 |
| I. 040 | 0.86240 | 50,6 | 0.50622 | 86,2 | 9.93571 | 25,5 | 9.70434 | 74,0 | 59 35 15.40 |
| .041 | .86291 | 50,5 | .50536 | 86,3 | .93597 | 25,4 | .70360 | 74,2 | 59 38 41.66 |
| .042 | .86341 | 50,4 | .50449 | 86,3 | .93622 | 25,4 | .70286 | 74,3 | 59 42 07.93 |
| .043 | .86392 | 50,4 | .50363 | 86,4 | .93647 | 25,3 | .70211 | 74,5 | 59 45 34.19 |
| .044 | .86442 | 50,3 | .50277 | 86,4 | .93673 | 25,3 | .70137 | 74,7 | 59 49 00.46 |
| I. 045 | 0.86492 | 50,2 | 0.50190 | 86,5 | 9.93698 | 25,2 | 9.70062 | 74,8 | 59 52 26.72 |
| .046 | .86543 | 50,1 | .50104 | 86,5 | .93723 | 25,1 | .69987 | 75,0 | 59 55 52.99 |
| .047 | .86593 | 50,0 | .50017 | 86,6 | .93748 | 25,1 | .69912 | 75,2 | 59 59 19.25 |
| .048 | .86643 | 49,9 | .49930 | 86,6 | .93773 | 25,0 | .69837 | 75,4 | 60 02 45.52 |
| .049 | .86693 | 49,8 | .49844 | 86,7 | .93798 | 25,0 | .69761 | 75,5 | 60 06 11.78 |
| I. 050 | 0.86742 | 49,8 | 0.49757 | 86,7 | 9.93823 | 24,9 | 9.69686 | 75,7 | 60 09 38.05 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | $\sin u$ | $\omega F_0'$ | $\cos u$ | $\omega F_0'$ | $\log \sin u$ | $\omega F_0'$ | $\log \cos u$ | $\omega F_0'$ | u |
|-------|--------------|---------------|-----------|---------------|--------------------------|---------------|----------------|---------------|---------------|
| 1.050 | 0.86742 | 49.8 | 0.49757 | 86.7 | 9.93823 | 24.9 | 9.60686 | 75.7 | 60° 09' 38.05 |
| .051 | .86792 | 49.7 | .49670 | 86.8 | .93848 | 24.9 | .60610 | 75.9 | 60 13 04.31 |
| .052 | .86842 | 49.6 | .49584 | 86.8 | .93873 | 24.8 | .60534 | 76.1 | 60 16 30.58 |
| .053 | .86891 | 49.5 | .49497 | 86.9 | .93898 | 24.7 | .60458 | 76.2 | 60 19 56.84 |
| .054 | .86941 | 49.4 | .49410 | 86.9 | .93922 | 24.7 | .60381 | 76.4 | 60 23 23.11 |
| 1.055 | 0.86990 | 49.3 | 0.49323 | 87.0 | 9.93947 | 24.6 | 9.60305 | 76.6 | 60 26 49.37 |
| .056 | .87039 | 49.2 | .49236 | 87.0 | .93972 | 24.6 | .60228 | 76.8 | 60 30 15.04 |
| .057 | .87088 | 49.1 | .49149 | 87.1 | .93996 | 24.5 | .60151 | 77.0 | 60 33 41.00 |
| .058 | .87138 | 49.1 | .49062 | 87.1 | .94021 | 24.5 | .60074 | 77.1 | 60 37 08.17 |
| .059 | .87187 | 49.0 | .48974 | 87.2 | .94045 | 24.4 | .60097 | 77.3 | 60 40 34.43 |
| 1.060 | 0.87236 | 48.9 | 0.48887 | 87.2 | 9.94069 | 24.3 | 9.60020 | 77.5 | 60 44 00.69 |
| .061 | .87284 | 48.8 | .48800 | 87.3 | .94094 | 24.3 | .60042 | 77.7 | 60 47 26.96 |
| .062 | .87333 | 48.7 | .48713 | 87.3 | .94118 | 24.2 | .60064 | 77.9 | 60 50 53.22 |
| .063 | .87382 | 48.6 | .48625 | 87.4 | .94142 | 24.2 | .60086 | 78.0 | 60 54 19.49 |
| .064 | .87430 | 48.5 | .48538 | 87.4 | .94166 | 24.1 | .60108 | 78.2 | 60 57 45.75 |
| 1.065 | 0.87479 | 48.5 | 0.48450 | 87.5 | 9.94190 | 24.1 | 9.60130 | 78.4 | 61 01 12.02 |
| .066 | .87527 | 48.4 | .48363 | 87.5 | .94214 | 24.0 | .60151 | 78.6 | 61 04 38.28 |
| .067 | .87576 | 48.3 | .48275 | 87.6 | .94238 | 23.9 | .60173 | 78.8 | 61 08 04.55 |
| .068 | .87624 | 48.2 | .48188 | 87.6 | .94262 | 23.9 | .60194 | 79.0 | 61 11 30.81 |
| .069 | .87672 | 48.1 | .48100 | 87.7 | .94286 | 23.8 | .60215 | 79.2 | 61 14 57.08 |
| 1.070 | 0.87720 | 48.0 | 0.48012 | 87.7 | 9.94310 | 23.8 | 9.60135 | 79.3 | 61 18 23.34 |
| .071 | .87768 | 47.9 | .47925 | 87.8 | .94334 | 23.7 | .60156 | 79.5 | 61 21 49.61 |
| .072 | .87816 | 47.8 | .47837 | 87.8 | .94357 | 23.7 | .60177 | 79.7 | 61 25 15.87 |
| .073 | .87864 | 47.7 | .47749 | 87.9 | .94381 | 23.6 | .60198 | 79.9 | 61 28 42.14 |
| .074 | .87911 | 47.7 | .47661 | 87.9 | .94405 | 23.6 | .60219 | 80.1 | 61 32 08.40 |
| 1.075 | 0.87959 | 47.6 | 0.47573 | 88.0 | 9.94428 | 23.5 | 9.60136 | 80.3 | 61 35 34.67 |
| .076 | .88007 | 47.5 | .47485 | 88.0 | .94451 | 23.4 | .60156 | 80.5 | 61 39 00.93 |
| .077 | .88054 | 47.4 | .47397 | 88.1 | .94475 | 23.4 | .60177 | 80.7 | 61 42 27.20 |
| .078 | .88101 | 47.3 | .47309 | 88.1 | .94498 | 23.3 | .60198 | 80.9 | 61 45 53.46 |
| .079 | .88149 | 47.2 | .47221 | 88.1 | .94522 | 23.3 | .60219 | 81.1 | 61 49 19.73 |
| 1.080 | 0.88196 | 47.1 | 0.47133 | 88.2 | 9.94545 | 23.2 | 9.60137 | 81.3 | 61 52 45.99 |
| .081 | .88243 | 47.0 | .47045 | 88.2 | .94568 | 23.2 | .60157 | 81.5 | 61 56 12.26 |
| .082 | .88290 | 47.0 | .46956 | 88.3 | .94591 | 23.1 | .60178 | 81.7 | 61 59 38.52 |
| .083 | .88337 | 46.9 | .46868 | 88.3 | .94614 | 23.0 | .60198 | 81.9 | 62 03 04.79 |
| .084 | .88384 | 46.8 | .46780 | 88.4 | .94637 | 23.0 | .60219 | 82.1 | 62 06 31.05 |
| 1.085 | 0.88430 | 46.7 | 0.46691 | 88.4 | 9.94660 | 22.9 | 9.60138 | 82.3 | 62 09 57.31 |
| .086 | .88477 | 46.6 | .46603 | 88.5 | .94683 | 22.9 | .60158 | 82.5 | 62 13 23.58 |
| .087 | .88524 | 46.5 | .46514 | 88.5 | .94706 | 22.8 | .60178 | 82.7 | 62 16 49.84 |
| .088 | .88570 | 46.4 | .46426 | 88.6 | .94729 | 22.8 | .60198 | 82.9 | 62 20 16.11 |
| .089 | .88616 | 46.3 | .46337 | 88.6 | .94751 | 22.7 | .60219 | 83.1 | 62 23 42.37 |
| 1.090 | 0.88663 | 46.2 | 0.46249 | 88.7 | 9.94774 | 22.7 | 9.60139 | 83.3 | 62 27 08.64 |
| .091 | .88709 | 46.2 | .46160 | 88.7 | .94797 | 22.6 | .60158 | 83.5 | 62 30 34.90 |
| .092 | .88755 | 46.1 | .46071 | 88.8 | .94819 | 22.5 | .60178 | 83.7 | 62 34 01.17 |
| .093 | .88801 | 46.0 | .45982 | 88.8 | .94842 | 22.5 | .60198 | 83.9 | 62 37 27.43 |
| .094 | .88847 | 45.9 | .45894 | 88.8 | .94864 | 22.4 | .60219 | 84.1 | 62 40 53.70 |
| 1.095 | 0.88893 | 45.8 | 0.45805 | 88.9 | 9.94887 | 22.4 | 9.60140 | 84.3 | 62 44 19.96 |
| .096 | .88939 | 45.7 | .45716 | 88.9 | .94909 | 22.3 | .60159 | 84.5 | 62 47 46.23 |
| .097 | .88984 | 45.6 | .45627 | 89.0 | .94931 | 22.3 | .60179 | 84.7 | 62 51 12.49 |
| .098 | .89030 | 45.5 | .45538 | 89.0 | .94954 | 22.2 | .60199 | 84.9 | 62 54 38.76 |
| .099 | .89075 | 45.4 | .45449 | 89.1 | .94976 | 22.2 | .60219 | 85.1 | 62 58 05.02 |
| 1.100 | 0.89121 | 45.4 | 0.45360 | 89.1 | 9.94998 | 22.1 | 9.60141 | 85.3 | 63 01 31.29 |
| u | $-i \sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\log \frac{\sinh u}{i}$ | $\omega F_0'$ | $\log \cosh u$ | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|--------------------------|---------------|------------|---------------|----------------|
| I. 100 | 0.89121 | 45.4 | 0.45360 | 89.1 | 9.94998 | 22.1 | 9.65667 | 85.3 | 63° 01' 31".29 |
| .101 | .89166 | 45.3 | .45270 | 89.2 | .95020 | 22.0 | .65581 | 85.5 | 63 04 57.55 |
| .102 | .89211 | 45.2 | .45181 | 89.2 | .95042 | 22.0 | .65496 | 85.8 | 63 08 23.82 |
| .103 | .89256 | 45.1 | .45092 | 89.3 | .95064 | 21.9 | .65410 | 86.0 | 63 11 50.08 |
| .104 | .89301 | 45.0 | .45003 | 89.3 | .95086 | 21.9 | .65324 | 86.2 | 63 15 16.35 |
| I. 105 | 0.89346 | 44.9 | 0.44913 | 89.3 | 9.95108 | 21.8 | 9.65238 | 86.4 | 63 18 42.61 |
| .106 | .89391 | 44.8 | .44824 | 89.4 | .95130 | 21.8 | .65151 | 86.6 | 63 22 08.88 |
| .107 | .89436 | 44.7 | .44735 | 89.4 | .95151 | 21.7 | .65064 | 86.8 | 63 25 35.14 |
| .108 | .89481 | 44.6 | .44645 | 89.5 | .95173 | 21.7 | .64977 | 87.0 | 63 29 01.41 |
| .109 | .89525 | 44.6 | .44556 | 89.5 | .95195 | 21.6 | .64890 | 87.3 | 63 32 27.67 |
| I. 110 | 0.89570 | 44.5 | 0.44466 | 89.6 | 9.95216 | 21.6 | 9.64803 | 87.5 | 63 35 53.93 |
| .111 | .89614 | 44.4 | .44377 | 89.6 | .95238 | 21.5 | .64715 | 87.7 | 63 39 20.20 |
| .112 | .89659 | 44.3 | .44287 | 89.7 | .95259 | 21.5 | .64628 | 87.9 | 63 42 46.46 |
| .113 | .89703 | 44.2 | .44197 | 89.7 | .95281 | 21.4 | .64540 | 88.1 | 63 46 12.73 |
| .114 | .89747 | 44.1 | .44108 | 89.7 | .95302 | 21.3 | .64451 | 88.4 | 63 49 38.99 |
| I. 115 | 0.89791 | 44.0 | 0.44018 | 89.8 | 9.95323 | 21.3 | 9.64363 | 88.6 | 63 53 05.26 |
| .116 | .89835 | 43.9 | .43928 | 89.8 | .95345 | 21.2 | .64274 | 88.8 | 63 56 31.52 |
| .117 | .89879 | 43.8 | .43838 | 89.9 | .95366 | 21.2 | .64185 | 89.0 | 63 59 57.79 |
| .118 | .89923 | 43.7 | .43748 | 89.9 | .95387 | 21.1 | .64096 | 89.3 | 64 03 24.05 |
| .119 | .89966 | 43.7 | .43658 | 90.0 | .95408 | 21.1 | .64007 | 89.5 | 64 06 50.32 |
| I. 120 | 0.90010 | 43.6 | 0.43568 | 90.0 | 9.95429 | 21.0 | 9.63917 | 89.7 | 64 10 16.58 |
| .121 | .90054 | 43.5 | .43478 | 90.1 | .95450 | 21.0 | .63827 | 90.0 | 64 13 42.85 |
| .122 | .90097 | 43.4 | .43388 | 90.1 | .95471 | 20.9 | .63737 | 90.2 | 64 17 09.11 |
| .123 | .90140 | 43.3 | .43298 | 90.1 | .95492 | 20.9 | .63647 | 90.4 | 64 20 35.38 |
| .124 | .90184 | 43.2 | .43208 | 90.2 | .95513 | 20.8 | .63556 | 90.6 | 64 24 01.64 |
| I. 125 | 0.90227 | 43.1 | 0.43118 | 90.2 | 9.95534 | 20.8 | 9.63466 | 90.9 | 64 27 27.91 |
| .126 | .90270 | 43.0 | .43027 | 90.3 | .95554 | 20.7 | .63375 | 91.1 | 64 30 54.17 |
| .127 | .90313 | 42.9 | .42937 | 90.3 | .95575 | 20.6 | .63283 | 91.3 | 64 34 20.44 |
| .128 | .90356 | 42.8 | .42847 | 90.4 | .95596 | 20.6 | .63192 | 91.6 | 64 37 46.70 |
| .129 | .90398 | 42.8 | .42756 | 90.4 | .95616 | 20.5 | .63100 | 91.8 | 64 41 12.97 |
| I. 130 | 0.90441 | 42.7 | 0.42666 | 90.4 | 9.95637 | 20.5 | 9.63008 | 92.1 | 64 44 39.23 |
| .131 | .90484 | 42.6 | .42576 | 90.5 | .95657 | 20.4 | .62916 | 92.3 | 64 48 05.50 |
| .132 | .90526 | 42.5 | .42485 | 90.5 | .95678 | 20.4 | .62824 | 92.5 | 64 51 31.76 |
| .133 | .90569 | 42.4 | .42394 | 90.6 | .95698 | 20.3 | .62731 | 92.8 | 64 54 58.03 |
| .134 | .90611 | 42.3 | .42304 | 90.6 | .95718 | 20.3 | .62638 | 93.0 | 64 58 24.29 |
| I. 135 | 0.90653 | 42.2 | 0.42213 | 90.7 | 9.95738 | 20.2 | 9.62545 | 93.3 | 65 01 50.56 |
| .136 | .90696 | 42.1 | .42123 | 90.7 | .95759 | 20.2 | .62451 | 93.5 | 65 05 16.82 |
| .137 | .90738 | 42.0 | .42032 | 90.7 | .95779 | 20.1 | .62358 | 93.8 | 65 08 43.08 |
| .138 | .90780 | 41.9 | .41941 | 90.8 | .95799 | 20.1 | .62264 | 94.0 | 65 12 09.35 |
| .139 | .90822 | 41.9 | .41850 | 90.8 | .95819 | 20.0 | .62170 | 94.2 | 65 15 35.61 |
| I. 140 | 0.90863 | 41.8 | 0.41759 | 90.9 | 9.95839 | 20.0 | 9.62075 | 94.5 | 65 19 01.88 |
| .141 | .90905 | 41.7 | .41669 | 90.9 | .95859 | 19.9 | .61981 | 94.7 | 65 22 28.14 |
| .142 | .90947 | 41.6 | .41578 | 90.9 | .95879 | 19.9 | .61886 | 95.0 | 65 25 54.41 |
| .143 | .90988 | 41.5 | .41487 | 91.0 | .95899 | 19.8 | .61791 | 95.2 | 65 29 20.67 |
| .144 | .91030 | 41.4 | .41396 | 91.0 | .95918 | 19.7 | .61695 | 95.5 | 65 32 46.94 |
| I. 145 | 0.91071 | 41.3 | 0.41305 | 91.1 | 9.95938 | 19.7 | 9.61600 | 95.8 | 65 36 13.20 |
| .146 | .91112 | 41.2 | .41214 | 91.1 | .95958 | 19.6 | .61504 | 96.0 | 65 39 39.47 |
| .147 | .91153 | 41.1 | .41122 | 91.2 | .95977 | 19.6 | .61408 | 96.3 | 65 43 05.73 |
| .148 | .91195 | 41.0 | .41031 | 91.2 | .95997 | 19.5 | .61311 | 96.5 | 65 46 32.00 |
| .149 | .91235 | 40.9 | .40940 | 91.2 | .96016 | 19.5 | .61215 | 96.8 | 65 49 58.26 |
| I. 150 | 0.91276 | 40.8 | 0.40849 | 91.3 | 9.96036 | 19.4 | 9.61118 | 97.0 | 65 53 24.53 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | $\log \frac{\sinh u}{1}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|-------------|
| I. 150 | 0.91276 | 40,8 | 0.40849 | 91,3 | 9.96036 | 19,4 | 9.61118 | 97,0 | 05 53 24.53 |
| .151 | .91317 | 40,8 | .40757 | 91,3 | .96055 | 19,4 | .61021 | 97,3 | 05 56 50.79 |
| .152 | .91358 | 40,7 | .40666 | 91,4 | .96075 | 19,3 | .60923 | 97,6 | 06 00 17.06 |
| .153 | .91399 | 40,6 | .40575 | 91,4 | .96094 | 19,3 | .60826 | 97,8 | 06 03 43.32 |
| .154 | .91439 | 40,5 | .40483 | 91,4 | .96113 | 19,2 | .60728 | 98,1 | 06 07 09.59 |
| I. 155 | 0.91479 | 40,4 | 0.40392 | 91,5 | 9.96132 | 19,2 | 9.60629 | 98,4 | 06 10 35.85 |
| .156 | .91520 | 40,3 | .40300 | 91,5 | .96152 | 19,1 | .60531 | 98,6 | 06 14 02.12 |
| .157 | .91560 | 40,2 | .40209 | 91,6 | .96171 | 19,1 | .60432 | 98,9 | 06 17 28.38 |
| .158 | .91600 | 40,1 | .40117 | 91,6 | .96190 | 19,0 | .60333 | 99,2 | 06 20 54.65 |
| .159 | .91640 | 40,0 | .40026 | 91,6 | .96209 | 19,0 | .60234 | 99,4 | 06 24 20.91 |
| I. 160 | 0.91680 | 39,9 | 0.39934 | 91,7 | 9.96228 | 18,9 | 9.60134 | 99,7 | 06 27 47.18 |
| .161 | .91720 | 39,8 | .39842 | 91,7 | .96246 | 18,9 | .60034 | 100,0 | 06 31 13.44 |
| .162 | .91760 | 39,8 | .39751 | 91,8 | .96265 | 18,8 | .59934 | 100,3 | 06 34 39.70 |
| .163 | .91800 | 39,7 | .39659 | 91,8 | .96284 | 18,8 | .59834 | 100,5 | 06 38 05.97 |
| .164 | .91839 | 39,6 | .39567 | 91,8 | .96303 | 18,7 | .59733 | 100,8 | 06 41 32.23 |
| I. 165 | 0.91879 | 39,5 | 0.39475 | 91,9 | 9.96322 | 18,7 | 9.59632 | 101,1 | 06 44 58.50 |
| .166 | .91918 | 39,4 | .39383 | 91,9 | .96340 | 18,6 | .59531 | 101,4 | 06 48 24.76 |
| .167 | .91958 | 39,3 | .39291 | 92,0 | .96359 | 18,6 | .59430 | 101,6 | 06 51 51.03 |
| .168 | .91997 | 39,2 | .39199 | 92,0 | .96377 | 18,5 | .59328 | 101,9 | 06 55 17.29 |
| .169 | .92036 | 39,1 | .39107 | 92,0 | .96396 | 18,5 | .59226 | 102,2 | 06 58 43.56 |
| I. 170 | 0.92075 | 39,0 | 0.39015 | 92,1 | 9.96414 | 18,4 | 9.59123 | 102,5 | 07 02 09.82 |
| .171 | .92114 | 38,9 | .38923 | 92,1 | .96433 | 18,4 | .59021 | 102,8 | 07 05 36.09 |
| .172 | .92153 | 38,8 | .38831 | 92,2 | .96451 | 18,3 | .58918 | 103,1 | 07 09 02.35 |
| .173 | .92192 | 38,7 | .38739 | 92,2 | .96469 | 18,2 | .58815 | 103,4 | 07 12 28.62 |
| .174 | .92230 | 38,6 | .38647 | 92,2 | .96487 | 18,2 | .58711 | 103,6 | 07 15 54.88 |
| I. 175 | 0.92269 | 38,6 | 0.38554 | 92,3 | 9.96506 | 18,1 | 9.58607 | 103,9 | 07 19 21.15 |
| .176 | .92307 | 38,5 | .38462 | 92,3 | .96524 | 18,1 | .58503 | 104,2 | 07 22 47.41 |
| .177 | .92346 | 38,4 | .38370 | 92,3 | .96542 | 18,0 | .58399 | 104,5 | 07 26 13.68 |
| .178 | .92384 | 38,3 | .38277 | 92,4 | .96560 | 18,0 | .58294 | 104,8 | 07 29 39.94 |
| .179 | .92422 | 38,2 | .38185 | 92,4 | .96578 | 17,9 | .58189 | 105,1 | 07 33 06.21 |
| I. 180 | 0.92461 | 38,1 | 0.38092 | 92,5 | 9.96596 | 17,9 | 9.58084 | 105,4 | 07 36 32.47 |
| .181 | .92499 | 38,0 | .38000 | 92,5 | .96614 | 17,8 | .57978 | 105,7 | 07 39 58.74 |
| .182 | .92537 | 37,9 | .37907 | 92,5 | .96631 | 17,8 | .57872 | 106,0 | 07 43 25.00 |
| .183 | .92574 | 37,8 | .37815 | 92,6 | .96649 | 17,7 | .57766 | 106,3 | 07 46 51.27 |
| .184 | .92612 | 37,7 | .37722 | 92,6 | .96667 | 17,7 | .57660 | 106,6 | 07 50 17.53 |
| I. 185 | 0.92650 | 37,6 | 0.37630 | 92,6 | 9.96684 | 17,6 | 9.57553 | 106,9 | 07 53 43.80 |
| .186 | .92687 | 37,5 | .37537 | 92,7 | .96702 | 17,6 | .57446 | 107,2 | 07 57 10.06 |
| .187 | .92725 | 37,4 | .37444 | 92,7 | .96720 | 17,5 | .57339 | 107,5 | 08 00 36.33 |
| .188 | .92762 | 37,4 | .37352 | 92,8 | .96737 | 17,5 | .57231 | 107,9 | 08 04 02.59 |
| .189 | .92800 | 37,3 | .37259 | 92,8 | .96755 | 17,4 | .57123 | 108,2 | 08 07 28.85 |
| I. 190 | 0.92837 | 37,2 | 0.37166 | 92,8 | 9.96772 | 17,4 | 9.57015 | 108,5 | 08 10 55.12 |
| .191 | .92874 | 37,1 | .37073 | 92,9 | .96789 | 17,3 | .56906 | 108,8 | 08 14 21.38 |
| .192 | .92911 | 37,0 | .36980 | 92,9 | .96807 | 17,3 | .56797 | 109,1 | 08 17 47.65 |
| .193 | .92948 | 36,9 | .36887 | 92,9 | .96824 | 17,2 | .56688 | 109,4 | 08 21 13.91 |
| .194 | .92985 | 36,8 | .36794 | 93,0 | .96841 | 17,2 | .56578 | 109,8 | 08 24 40.18 |
| I. 195 | 0.93022 | 36,7 | 0.36701 | 93,0 | 9.96858 | 17,1 | 9.56468 | 110,1 | 08 28 06.44 |
| .196 | .93058 | 36,6 | .36608 | 93,1 | .96875 | 17,1 | .56358 | 110,4 | 08 31 32.71 |
| .197 | .93095 | 36,5 | .36515 | 93,1 | .96893 | 17,0 | .56247 | 110,7 | 08 34 58.97 |
| .198 | .93131 | 36,4 | .36422 | 93,1 | .96910 | 17,0 | .56137 | 111,0 | 08 38 25.24 |
| .199 | .93168 | 36,3 | .36329 | 93,2 | .96927 | 16,9 | .56025 | 111,4 | 08 41 51.50 |
| I. 200 | 0.93204 | 36,2 | 0.36236 | 93,2 | 9.96943 | 16,9 | 9.55914 | 111,7 | 08 45 17.77 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| I. 200 | 0.93204 | 36,2 | 0.36236 | 93,2 | 9.96943 | 16,9 | 9.55914 | 111,7 | 68° 45' 17.77 |
| .201 | .93240 | 36,1 | .36143 | 93,2 | .96960 | 16,8 | .55802 | 112,0 | 68 48 44.03 |
| .202 | .93276 | 36,0 | .36049 | 93,3 | .96977 | 16,8 | .55690 | 112,4 | 68 52 10.30 |
| .203 | .93312 | 36,0 | .35956 | 93,3 | .96994 | 16,7 | .55577 | 112,7 | 68 55 36.56 |
| .204 | .93348 | 35,9 | .35863 | 93,3 | .97011 | 16,7 | .55464 | 113,0 | 68 59 02.83 |
| I. 205 | 0.93384 | 35,8 | 0.35769 | 93,4 | 9.97027 | 16,6 | 9.55351 | 113,4 | 69 02 29.09 |
| .206 | .93420 | 35,7 | .35676 | 93,4 | .97044 | 16,6 | .55237 | 113,7 | 69 05 55.36 |
| .207 | .93455 | 35,6 | .35582 | 93,5 | .97060 | 16,5 | .55124 | 114,1 | 69 09 21.62 |
| .208 | .93491 | 35,5 | .35489 | 93,5 | .97077 | 16,5 | .55009 | 114,4 | 69 12 47.89 |
| .209 | .93526 | 35,4 | .35395 | 93,5 | .97093 | 16,4 | .54895 | 114,8 | 69 16 14.15 |
| I. 210 | 0.93562 | 35,3 | 0.35302 | 93,6 | 9.97110 | 16,4 | 9.54780 | 115,1 | 69 19 40.42 |
| .211 | .93597 | 35,2 | .35208 | 93,6 | .97126 | 16,3 | .54665 | 115,5 | 69 23 06.68 |
| .212 | .93632 | 35,1 | .35115 | 93,6 | .97142 | 16,3 | .54549 | 115,8 | 69 26 32.95 |
| .213 | .93667 | 35,0 | .35021 | 93,7 | .97159 | 16,2 | .54433 | 116,2 | 69 29 59.21 |
| .214 | .93702 | 34,9 | .34927 | 93,7 | .97175 | 16,2 | .54317 | 116,5 | 69 33 25.47 |
| I. 215 | 0.93737 | 34,8 | 0.34834 | 93,7 | 9.97191 | 16,1 | 9.54200 | 116,9 | 69 36 51.74 |
| .216 | .93772 | 34,7 | .34740 | 93,8 | .97207 | 16,1 | .54083 | 117,2 | 69 40 18.00 |
| .217 | .93806 | 34,6 | .34646 | 93,8 | .97223 | 16,0 | .53965 | 117,6 | 69 43 44.27 |
| .218 | .93841 | 34,6 | .34552 | 93,8 | .97239 | 16,0 | .53848 | 118,0 | 69 47 10.53 |
| .219 | .93876 | 34,5 | .34458 | 93,9 | .97255 | 15,9 | .53730 | 118,3 | 69 50 36.80 |
| I. 220 | 0.93910 | 34,4 | 0.34365 | 93,9 | 9.97271 | 15,9 | 9.53611 | 118,7 | 69 54 03.06 |
| .221 | .93944 | 34,3 | .34271 | 93,9 | .97287 | 15,8 | .53492 | 119,1 | 69 57 29.33 |
| .222 | .93978 | 34,2 | .34177 | 94,0 | .97303 | 15,8 | .53373 | 119,4 | 70 00 55.59 |
| .223 | .94013 | 34,1 | .34083 | 94,0 | .97319 | 15,7 | .53253 | 119,8 | 70 04 21.86 |
| .224 | .94047 | 34,0 | .33989 | 94,0 | .97334 | 15,7 | .53133 | 120,2 | 70 07 48.12 |
| I. 225 | 0.94081 | 33,9 | 0.33895 | 94,1 | 9.97350 | 15,6 | 9.53013 | 120,5 | 70 11 14.39 |
| .226 | .94114 | 33,8 | .33800 | 94,1 | .97366 | 15,6 | .52892 | 120,9 | 70 14 40.65 |
| .227 | .94148 | 33,7 | .33706 | 94,1 | .97381 | 15,5 | .52771 | 121,3 | 70 18 06.92 |
| .228 | .94182 | 33,6 | .33612 | 94,2 | .97397 | 15,5 | .52650 | 121,7 | 70 21 33.18 |
| .229 | .94215 | 33,5 | .33518 | 94,2 | .97412 | 15,5 | .52528 | 122,1 | 70 24 59.44 |
| I. 230 | 0.94249 | 33,4 | 0.33424 | 94,2 | 9.97428 | 15,4 | 9.52406 | 122,5 | 70 28 25.71 |
| .231 | .94282 | 33,3 | .33330 | 94,3 | .97443 | 15,4 | .52283 | 122,9 | 70 31 51.98 |
| .232 | .94316 | 33,2 | .33235 | 94,3 | .97458 | 15,3 | .52160 | 123,2 | 70 35 18.24 |
| .233 | .94349 | 33,1 | .33141 | 94,3 | .97474 | 15,3 | .52036 | 123,6 | 70 38 44.51 |
| .234 | .94382 | 33,0 | .33047 | 94,4 | .97489 | 15,2 | .51913 | 124,0 | 70 42 10.77 |
| I. 235 | 0.94415 | 33,0 | 0.32952 | 94,4 | 9.97504 | 15,2 | 9.51788 | 124,4 | 70 45 37.04 |
| .236 | .94448 | 32,9 | .32858 | 94,4 | .97519 | 15,1 | .51664 | 124,8 | 70 49 03.30 |
| .237 | .94481 | 32,8 | .32763 | 94,5 | .97534 | 15,1 | .51539 | 125,2 | 70 52 29.57 |
| .238 | .94513 | 32,7 | .32669 | 94,5 | .97549 | 15,0 | .51413 | 125,6 | 70 55 55.83 |
| .239 | .94546 | 32,6 | .32574 | 94,5 | .97564 | 15,0 | .51287 | 126,1 | 70 59 22.09 |
| I. 240 | 0.94578 | 32,5 | 0.32480 | 94,6 | 9.97579 | 14,9 | 9.51161 | 126,5 | 71 02 48.36 |
| .241 | .94611 | 32,4 | .32385 | 94,6 | .97594 | 14,9 | .51034 | 126,9 | 71 06 14.62 |
| .242 | .94643 | 32,3 | .32290 | 94,6 | .97609 | 14,8 | .50907 | 127,3 | 71 09 40.89 |
| .243 | .94675 | 32,2 | .32196 | 94,7 | .97624 | 14,8 | .50780 | 127,7 | 71 13 07.15 |
| .244 | .94708 | 32,1 | .32101 | 94,7 | .97638 | 14,7 | .50652 | 128,1 | 71 16 33.42 |
| I. 245 | 0.94740 | 32,0 | 0.32006 | 94,7 | 9.97653 | 14,7 | 9.50524 | 128,6 | 71 19 59.68 |
| .246 | .94772 | 31,9 | .31912 | 94,8 | .97668 | 14,6 | .50395 | 129,0 | 71 23 25.95 |
| .247 | .94803 | 31,8 | .31817 | 94,8 | .97682 | 14,6 | .50266 | 129,4 | 71 26 52.21 |
| .248 | .94835 | 31,7 | .31722 | 94,8 | .97697 | 14,5 | .50136 | 129,8 | 71 30 18.48 |
| .249 | .94867 | 31,6 | .31627 | 94,9 | .97711 | 14,5 | .50006 | 130,3 | 71 33 44.74 |
| I. 250 | 0.94898 | 31,5 | 0.31532 | 94,9 | 9.97726 | 14,4 | 9.49875 | 130,7 | 71 37 11.01 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|----------------|
| I. 250 | 0.94898 | 31,5 | 0.31532 | 94,9 | 9.97726 | 14,4 | 9.49875 | 130,7 | 71° 37' 11.01" |
| .251 | .94930 | 31,4 | .31437 | 94,9 | .97740 | 14,4 | .49745 | 131,1 | 71 40 37.27 |
| .252 | .94961 | 31,3 | .31342 | 95,0 | .97755 | 14,3 | .49613 | 131,6 | 71 44 03.54 |
| .253 | .94993 | 31,2 | .31247 | 95,0 | .97769 | 14,3 | .49481 | 132,0 | 71 47 29.80 |
| .254 | .95024 | 31,2 | .31152 | 95,0 | .97783 | 14,2 | .49349 | 132,5 | 71 50 56.07 |
| I. 255 | 0.95055 | 31,1 | 0.31057 | 95,1 | 9.97797 | 14,2 | 9.49216 | 132,9 | 71 54 22.33 |
| .256 | .95086 | 31,0 | .30962 | 95,1 | .97812 | 14,1 | .49083 | 133,4 | 71 57 48.60 |
| .257 | .95117 | 30,9 | .30867 | 95,1 | .97826 | 14,1 | .48950 | 133,8 | 72 01 14.86 |
| .258 | .95148 | 30,8 | .30772 | 95,1 | .97840 | 14,0 | .48816 | 134,3 | 72 04 41.13 |
| .259 | .95178 | 30,7 | .30677 | 95,2 | .97854 | 14,0 | .48681 | 134,7 | 72 08 07.39 |
| I. 260 | 0.95209 | 30,6 | 0.30582 | 95,2 | 9.97868 | 13,9 | 9.48546 | 135,2 | 72 11 33.66 |
| .261 | .95240 | 30,5 | .30486 | 95,2 | .97882 | 13,9 | .48411 | 135,7 | 72 14 59.92 |
| .262 | .95270 | 30,4 | .30391 | 95,3 | .97896 | 13,9 | .48275 | 136,1 | 72 18 26.19 |
| .263 | .95300 | 30,3 | .30296 | 95,3 | .97909 | 13,8 | .48138 | 136,6 | 72 21 52.45 |
| .264 | .95331 | 30,2 | .30201 | 95,3 | .97923 | 13,7 | .48002 | 137,1 | 72 25 18.72 |
| I. 265 | 0.95361 | 30,1 | 0.30105 | 95,4 | 9.97937 | 13,7 | 9.47864 | 137,6 | 72 28 44.98 |
| .266 | .95391 | 30,0 | .30010 | 95,4 | .97951 | 13,7 | .47726 | 138,0 | 72 32 11.24 |
| .267 | .95421 | 29,9 | .29914 | 95,4 | .97964 | 13,6 | .47588 | 138,5 | 72 35 37.51 |
| .268 | .95451 | 29,8 | .29819 | 95,5 | .97978 | 13,6 | .47449 | 139,0 | 72 39 03.77 |
| .269 | .95480 | 29,7 | .29724 | 95,5 | .97991 | 13,5 | .47310 | 139,5 | 72 42 30.04 |
| I. 270 | 0.95510 | 29,6 | 0.29628 | 95,5 | 9.98005 | 13,5 | 9.47170 | 140,0 | 72 45 56.30 |
| .271 | .95540 | 29,5 | .29533 | 95,5 | .98018 | 13,4 | .47030 | 140,5 | 72 49 22.57 |
| .272 | .95569 | 29,4 | .29437 | 95,6 | .98032 | 13,4 | .46889 | 141,0 | 72 52 48.83 |
| .273 | .95599 | 29,3 | .29341 | 95,6 | .98045 | 13,3 | .46748 | 141,5 | 72 56 15.10 |
| .274 | .95628 | 29,2 | .29246 | 95,6 | .98058 | 13,3 | .46606 | 142,0 | 72 59 41.36 |
| I. 275 | 0.95657 | 29,2 | 0.29150 | 95,7 | 9.98072 | 13,2 | 9.46464 | 142,5 | 73 03 07.63 |
| .276 | .95686 | 29,1 | .29054 | 95,7 | .98085 | 13,2 | .46321 | 143,0 | 73 06 33.89 |
| .277 | .95715 | 29,0 | .28959 | 95,7 | .98098 | 13,1 | .46178 | 143,5 | 73 10 00.16 |
| .278 | .95744 | 28,9 | .28863 | 95,7 | .98111 | 13,1 | .46034 | 144,1 | 73 13 26.42 |
| .279 | .95773 | 28,8 | .28767 | 95,8 | .98124 | 13,0 | .45890 | 144,6 | 73 16 52.69 |
| I. 280 | 0.95802 | 28,7 | 0.28672 | 95,8 | 9.98137 | 13,0 | 9.45745 | 145,1 | 73 20 18.95 |
| .281 | .95830 | 28,6 | .28576 | 95,8 | .98150 | 13,0 | .45600 | 145,6 | 73 23 45.22 |
| .282 | .95859 | 28,5 | .28480 | 95,9 | .98163 | 12,9 | .45454 | 146,2 | 73 27 11.48 |
| .283 | .95887 | 28,4 | .28384 | 95,9 | .98176 | 12,9 | .45307 | 146,7 | 73 30 37.75 |
| .284 | .95916 | 28,3 | .28288 | 95,9 | .98189 | 12,8 | .45160 | 147,3 | 73 34 04.01 |
| I. 285 | 0.95944 | 28,2 | 0.28192 | 95,9 | 9.98202 | 12,8 | 9.45013 | 147,8 | 73 37 30.28 |
| .286 | .95972 | 28,1 | .28096 | 96,0 | .98214 | 12,7 | .44865 | 148,3 | 73 40 56.54 |
| .287 | .96000 | 28,0 | .28000 | 96,0 | .98227 | 12,7 | .44716 | 148,9 | 73 44 22.81 |
| .288 | .96028 | 27,9 | .27904 | 96,0 | .98240 | 12,6 | .44567 | 149,5 | 73 47 49.07 |
| .289 | .96056 | 27,8 | .27808 | 96,1 | .98252 | 12,6 | .44417 | 150,0 | 73 51 15.34 |
| I. 290 | 0.96084 | 27,7 | 0.27712 | 96,1 | 9.98265 | 12,5 | 9.44267 | 150,6 | 73 54 41.60 |
| .291 | .96111 | 27,6 | .27616 | 96,1 | .98277 | 12,5 | .44116 | 151,1 | 73 58 07.86 |
| .292 | .96139 | 27,5 | .27520 | 96,1 | .98290 | 12,4 | .43965 | 151,7 | 74 01 34.13 |
| .293 | .96166 | 27,4 | .27424 | 96,2 | .98302 | 12,4 | .43813 | 152,3 | 74 05 00.39 |
| .294 | .96194 | 27,3 | .27328 | 96,2 | .98315 | 12,3 | .43660 | 152,9 | 74 08 26.66 |
| I. 295 | 0.96221 | 27,2 | 0.27231 | 96,2 | 9.98327 | 12,3 | 9.43507 | 153,5 | 74 11 52.92 |
| .296 | .96248 | 27,1 | .27135 | 96,2 | .98339 | 12,2 | .43353 | 154,0 | 74 15 19.19 |
| .297 | .96275 | 27,0 | .27039 | 96,3 | .98351 | 12,2 | .43199 | 154,6 | 74 18 45.45 |
| .298 | .96302 | 26,9 | .26943 | 96,3 | .98364 | 12,2 | .43044 | 155,2 | 74 22 11.72 |
| .299 | .96329 | 26,8 | .26846 | 96,3 | .98376 | 12,1 | .42888 | 155,8 | 74 25 37.98 |
| I. 300 | 0.96356 | 26,7 | 0.26750 | 96,4 | 9.98388 | 12,1 | 9.42732 | 156,4 | 74 29 04.25 |
| u | -1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|-------------|
| I. 300 | 0.96356 | 26,7 | 0.26750 | 96,4 | 9.98388 | 12,1 | 9.42732 | 156,4 | 74 29 04.25 |
| .301 | .96383 | 26,7 | .26654 | 96,4 | .98400 | 12,0 | .42575 | 157,0 | 74 32 30.51 |
| .302 | .96409 | 26,6 | .26557 | 96,4 | .98412 | 12,0 | .42418 | 157,7 | 74 35 56.78 |
| .303 | .96436 | 26,5 | .26461 | 96,4 | .98424 | 11,9 | .42260 | 158,3 | 74 39 23.04 |
| .304 | .96462 | 26,4 | .26364 | 96,5 | .98436 | 11,9 | .42102 | 158,9 | 74 42 49.31 |
| I. 305 | 0.96488 | 26,3 | 0.26268 | 96,5 | 9.98447 | 11,8 | 9.41942 | 159,5 | 74 46 15.57 |
| .306 | .96515 | 26,2 | .26171 | 96,5 | .98459 | 11,8 | .41782 | 160,2 | 74 49 41.84 |
| .307 | .96541 | 26,1 | .26075 | 96,5 | .98471 | 11,7 | .41622 | 160,8 | 74 53 08.10 |
| .308 | .96567 | 26,0 | .25978 | 96,6 | .98483 | 11,7 | .41461 | 161,4 | 74 56 34.37 |
| .309 | .96593 | 25,9 | .25882 | 96,6 | .98494 | 11,6 | .41299 | 162,1 | 75 00 00.63 |
| I. 310 | 0.96618 | 25,8 | 0.25785 | 96,6 | 9.98506 | 11,6 | 9.41137 | 162,7 | 75 03 26.90 |
| .311 | .96644 | 25,7 | .25688 | 96,6 | .98518 | 11,5 | .40974 | 163,4 | 75 06 53.16 |
| .312 | .96670 | 25,6 | .25592 | 96,7 | .98529 | 11,5 | .40810 | 164,0 | 75 10 19.43 |
| .313 | .96695 | 25,5 | .25495 | 96,7 | .98541 | 11,5 | .40646 | 164,7 | 75 13 45.69 |
| .314 | .96721 | 25,4 | .25398 | 96,7 | .98552 | 11,4 | .40481 | 165,4 | 75 17 11.96 |
| I. 315 | 0.96746 | 25,3 | 0.25302 | 96,7 | 9.98563 | 11,4 | 9.40315 | 166,1 | 75 20 38.22 |
| .316 | .96771 | 25,2 | .25205 | 96,8 | .98575 | 11,3 | .40148 | 166,7 | 75 24 04.49 |
| .317 | .96797 | 25,1 | .25108 | 96,8 | .98586 | 11,3 | .39981 | 167,4 | 75 27 30.75 |
| .318 | .96822 | 25,0 | .25011 | 96,8 | .98597 | 11,2 | .39814 | 168,1 | 75 30 57.01 |
| .319 | .96847 | 24,9 | .24914 | 96,8 | .98608 | 11,2 | .39645 | 168,8 | 75 34 23.28 |
| I. 320 | 0.96872 | 24,8 | 0.24818 | 96,9 | 9.98620 | 11,1 | 9.39476 | 169,5 | 75 37 49.54 |
| .321 | .96896 | 24,7 | .24721 | 96,9 | .98631 | 11,1 | .39306 | 170,2 | 75 41 15.81 |
| .322 | .96921 | 24,6 | .24624 | 96,9 | .98642 | 11,0 | .39135 | 170,9 | 75 44 42.07 |
| .323 | .96946 | 24,5 | .24527 | 96,9 | .98653 | 11,0 | .38964 | 171,7 | 75 48 08.34 |
| .324 | .96970 | 24,4 | .24430 | 97,0 | .98664 | 10,9 | .38792 | 172,4 | 75 51 34.60 |
| I. 325 | 0.96994 | 24,3 | 0.24333 | 97,0 | 9.98675 | 10,9 | 9.38619 | 173,1 | 75 55 00.87 |
| .326 | .97019 | 24,2 | .24236 | 97,0 | .98686 | 10,8 | .38446 | 173,9 | 75 58 27.13 |
| .327 | .97043 | 24,1 | .24139 | 97,0 | .98696 | 10,8 | .38272 | 174,6 | 76 01 53.40 |
| .328 | .97067 | 24,0 | .24042 | 97,1 | .98707 | 10,8 | .38097 | 175,3 | 76 05 19.66 |
| .329 | .97091 | 23,9 | .23945 | 97,1 | .98718 | 10,7 | .37921 | 176,1 | 76 08 45.93 |
| I. 330 | 0.97115 | 23,8 | 0.23848 | 97,1 | 9.98729 | 10,7 | 9.37744 | 176,9 | 76 12 12.19 |
| .331 | .97139 | 23,8 | .23750 | 97,1 | .98739 | 10,6 | .37567 | 177,6 | 76 15 38.46 |
| .332 | .97162 | 23,7 | .23653 | 97,2 | .98750 | 10,6 | .37389 | 178,4 | 76 19 04.72 |
| .333 | .97186 | 23,6 | .23556 | 97,2 | .98760 | 10,5 | .37210 | 179,2 | 76 22 30.99 |
| .334 | .97209 | 23,5 | .23459 | 97,2 | .98771 | 10,5 | .37031 | 180,0 | 76 25 57.25 |
| I. 335 | 0.97233 | 23,4 | 0.23362 | 97,2 | 9.98781 | 10,4 | 9.36851 | 180,8 | 76 29 23.52 |
| .336 | .97256 | 23,3 | .23264 | 97,3 | .98792 | 10,4 | .36669 | 181,6 | 76 32 49.78 |
| .337 | .97279 | 23,2 | .23167 | 97,3 | .98802 | 10,3 | .36487 | 182,4 | 76 36 16.05 |
| .338 | .97303 | 23,1 | .23070 | 97,3 | .98812 | 10,3 | .36305 | 183,2 | 76 39 42.31 |
| .339 | .97326 | 23,0 | .22973 | 97,3 | .98823 | 10,3 | .36121 | 184,0 | 76 43 08.58 |
| I. 340 | 0.97348 | 22,9 | 0.22875 | 97,3 | 9.98833 | 10,2 | 9.35937 | 184,8 | 76 46 34.84 |
| .341 | .97371 | 22,8 | .22778 | 97,4 | .98843 | 10,2 | .35751 | 185,7 | 76 50 01.11 |
| .342 | .97394 | 22,7 | .22681 | 97,4 | .98853 | 10,1 | .35565 | 186,5 | 76 53 27.37 |
| .343 | .97417 | 22,6 | .22583 | 97,4 | .98863 | 10,1 | .35378 | 187,3 | 76 56 53.63 |
| .344 | .97439 | 22,5 | .22486 | 97,4 | .98873 | 10,0 | .35191 | 188,2 | 77 00 19.90 |
| I. 345 | 0.97462 | 22,4 | 0.22388 | 97,5 | 9.98883 | 10,0 | 9.35002 | 189,1 | 77 03 46.16 |
| .346 | .97484 | 22,3 | .22291 | 97,5 | .98893 | 9,9 | .34813 | 189,9 | 77 07 12.43 |
| .347 | .97506 | 22,2 | .22193 | 97,5 | .98903 | 9,9 | .34622 | 190,8 | 77 10 38.69 |
| .348 | .97528 | 22,1 | .22096 | 97,5 | .98913 | 9,8 | .34431 | 191,7 | 77 14 04.96 |
| .349 | .97550 | 22,0 | .21998 | 97,6 | .98923 | 9,8 | .34239 | 192,6 | 77 17 31.22 |
| I. 350 | 0.97572 | 21,9 | 0.21901 | 97,6 | 9.98933 | 9,7 | 9.34046 | 193,5 | 77 20 57.49 |
| u | -I sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|--------------------------|---------------|-------------|---------------|---------------|
| I. 350 | 0.97572 | 21,9 | 0.21901 | 97,6 | 9.98933 | 9,7 | 9.34046 | 193,5 | 77° 20' 57.49 |
| .351 | .97594 | 21,8 | .21803 | 97,6 | .98942 | 9,7 | .33852 | 194,4 | 77 24 23.75 |
| .352 | .97616 | 21,7 | .21705 | 97,6 | .98952 | 9,7 | .33657 | 195,3 | 77 27 50.02 |
| .353 | .97638 | 21,6 | .21608 | 97,6 | .98962 | 9,6 | .33461 | 196,2 | 77 31 16.28 |
| .354 | .97659 | 21,5 | .21510 | 97,7 | .98971 | 9,6 | .33264 | 197,2 | 77 34 42.55 |
| I. 355 | 0.97681 | 21,4 | 0.21413 | 97,7 | 9.98981 | 9,5 | 9.33067 | 198,1 | 77 38 08.81 |
| .356 | .97702 | 21,3 | .21315 | 97,7 | .98990 | 9,5 | .32868 | 199,1 | 77 41 35.08 |
| .357 | .97723 | 21,2 | .21217 | 97,7 | .99000 | 9,4 | .32669 | 200,0 | 77 45 01.34 |
| .358 | .97744 | 21,1 | .21119 | 97,7 | .99009 | 9,4 | .32468 | 201,0 | 77 48 27.61 |
| .359 | .97765 | 21,0 | .21022 | 97,8 | .99019 | 9,3 | .32267 | 202,0 | 77 51 53.87 |
| I. 360 | 0.97786 | 20,9 | 0.20924 | 97,8 | 9.99028 | 9,3 | 9.32064 | 203,0 | 77 55 20.14 |
| .361 | .97807 | 20,8 | .20826 | 97,8 | .99037 | 9,2 | .31861 | 204,0 | 77 58 46.40 |
| .362 | .97828 | 20,7 | .20728 | 97,8 | .99046 | 9,2 | .31656 | 205,0 | 78 02 12.67 |
| .363 | .97849 | 20,6 | .20630 | 97,8 | .99056 | 9,2 | .31451 | 206,0 | 78 05 38.93 |
| .364 | .97869 | 20,5 | .20533 | 97,9 | .99065 | 9,1 | .31244 | 207,0 | 78 09 05.20 |
| I. 365 | 0.97890 | 20,4 | 0.20435 | 97,9 | 9.99074 | 9,1 | 9.31037 | 208,0 | 78 12 31.46 |
| .366 | .97910 | 20,3 | .20337 | 97,9 | .99083 | 9,0 | .30828 | 209,1 | 78 15 57.73 |
| .367 | .97931 | 20,2 | .20239 | 97,9 | .99092 | 9,0 | .30619 | 210,1 | 78 19 23.99 |
| .368 | .97951 | 20,1 | .20141 | 98,0 | .99101 | 8,9 | .30408 | 211,2 | 78 22 50.25 |
| .369 | .97971 | 20,0 | .20043 | 98,0 | .99110 | 8,9 | .30196 | 212,3 | 78 26 16.52 |
| I. 370 | 0.97991 | 19,9 | 0.19945 | 98,0 | 9.99119 | 8,8 | 9.29983 | 213,4 | 78 29 42.78 |
| .371 | .98011 | 19,8 | .19847 | 98,0 | .99127 | 8,8 | .29769 | 214,5 | 78 33 09.05 |
| .372 | .98031 | 19,7 | .19749 | 98,0 | .99136 | 8,7 | .29554 | 215,6 | 78 36 35.31 |
| .373 | .98050 | 19,7 | .19651 | 98,1 | .99145 | 8,7 | .29338 | 216,7 | 78 40 01.58 |
| .374 | .98070 | 19,6 | .19553 | 98,1 | .99154 | 8,7 | .29121 | 217,8 | 78 43 27.84 |
| I. 375 | 0.98089 | 19,5 | 0.19455 | 98,1 | 9.99162 | 8,6 | 9.28903 | 219,0 | 78 46 54.11 |
| .376 | .98109 | 19,4 | .19357 | 98,1 | .99171 | 8,6 | .28683 | 220,1 | 78 50 20.37 |
| .377 | .98128 | 19,3 | .19259 | 98,1 | .99179 | 8,5 | .28462 | 221,3 | 78 53 46.64 |
| .378 | .98147 | 19,2 | .19160 | 98,1 | .99188 | 8,5 | .28240 | 222,5 | 78 57 12.90 |
| .379 | .98166 | 19,1 | .19062 | 98,2 | .99196 | 8,4 | .28017 | 223,7 | 79 00 39.17 |
| I. 380 | 0.98185 | 19,0 | 0.18964 | 98,2 | 9.99205 | 8,4 | 9.27793 | 224,9 | 79 04 05.43 |
| .381 | .98204 | 18,9 | .18866 | 98,2 | .99213 | 8,3 | .27568 | 226,1 | 79 07 31.70 |
| .382 | .98223 | 18,8 | .18768 | 98,2 | .99221 | 8,3 | .27341 | 227,3 | 79 10 57.96 |
| .383 | .98242 | 18,7 | .18669 | 98,2 | .99230 | 8,3 | .27113 | 228,5 | 79 14 24.23 |
| .384 | .98260 | 18,6 | .18571 | 98,3 | .99238 | 8,2 | .26884 | 229,8 | 79 17 50.49 |
| I. 385 | 0.98279 | 18,5 | 0.18473 | 98,3 | 9.99246 | 8,2 | 9.26654 | 231,1 | 79 21 16.76 |
| .386 | .98297 | 18,4 | .18375 | 98,3 | .99254 | 8,1 | .26422 | 232,3 | 79 24 43.02 |
| .387 | .98316 | 18,3 | .18276 | 98,3 | .99262 | 8,1 | .26189 | 233,6 | 79 28 09.29 |
| .388 | .98334 | 18,2 | .18178 | 98,3 | .99270 | 8,0 | .25955 | 234,9 | 79 31 35.55 |
| .389 | .98352 | 18,1 | .18080 | 98,4 | .99278 | 8,0 | .25719 | 236,3 | 79 35 01.82 |
| I. 390 | 0.98370 | 18,0 | 0.17981 | 98,4 | 9.99286 | 7,9 | 9.25482 | 237,6 | 79 38 28.08 |
| .391 | .98388 | 17,9 | .17883 | 98,4 | .99294 | 7,9 | .25244 | 238,9 | 79 41 54.35 |
| .392 | .98406 | 17,8 | .17785 | 98,4 | .99302 | 7,8 | .25004 | 240,3 | 79 45 20.61 |
| .393 | .98424 | 17,7 | .17686 | 98,4 | .99310 | 7,8 | .24763 | 241,7 | 79 48 46.88 |
| .394 | .98441 | 17,6 | .17588 | 98,4 | .99318 | 7,8 | .24521 | 243,1 | 79 52 13.14 |
| I. 395 | 0.98459 | 17,5 | 0.17489 | 98,5 | 9.99325 | 7,7 | 9.24277 | 244,5 | 79 55 39.40 |
| .396 | .98476 | 17,4 | .17391 | 98,5 | .99333 | 7,7 | .24032 | 245,9 | 79 59 05.67 |
| .397 | .98494 | 17,3 | .17292 | 98,5 | .99341 | 7,6 | .23785 | 247,4 | 80 02 31.93 |
| .398 | .98511 | 17,2 | .17194 | 98,5 | .99348 | 7,6 | .23537 | 248,8 | 80 05 58.20 |
| .399 | .98528 | 17,1 | .17095 | 98,5 | .99356 | 7,5 | .23288 | 250,3 | 80 09 24.46 |
| I. 400 | 0.98545 | 17,0 | 0.16997 | 98,5 | 9.99363 | 7,5 | 9.23036 | 251,8 | 80 12 50.73 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | log $\frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|------------|---------------|---------|---------------|---------------------------|---------------|-------------|---------------|----------------|
| I. 400 | 0.98545 | 17,0 | 0.16997 | 98,5 | 9.99363 | 7,5 | 9.23036 | 251,8 | 80° 12' 50".73 |
| .401 | .98562 | 16,9 | .16898 | 98,6 | .99371 | 7,4 | .22784 | 253,3 | 80 16 16.99 |
| .402 | .98579 | 16,8 | .16800 | 98,6 | .99378 | 7,4 | .22530 | 254,8 | 80 19 43.26 |
| .403 | .98596 | 16,7 | .16701 | 98,6 | .99386 | 7,4 | .22274 | 256,4 | 80 23 09.52 |
| .404 | .98612 | 16,6 | .16602 | 98,6 | .99393 | 7,3 | .22017 | 258,0 | 80 26 35.79 |
| I. 405 | 0.98629 | 16,5 | 0.16504 | 98,6 | 9.99400 | 7,3 | 9.21758 | 259,5 | 80 30 02.05 |
| .406 | .98645 | 16,4 | .16405 | 98,6 | .99408 | 7,2 | .21498 | 261,1 | 80 33 28.32 |
| .407 | .98662 | 16,3 | .16306 | 98,7 | .99415 | 7,2 | .21236 | 262,8 | 80 36 54.58 |
| .408 | .98678 | 16,2 | .16208 | 98,7 | .99422 | 7,1 | .20972 | 264,4 | 80 40 20.85 |
| .409 | .98694 | 16,1 | .16109 | 98,7 | .99429 | 7,1 | .20707 | 266,1 | 80 43 47.11 |
| I. 410 | 0.98710 | 16,0 | 0.16010 | 98,7 | 9.99436 | 7,0 | 9.20440 | 267,8 | 80 47 13.38 |
| .411 | .98726 | 15,9 | .15912 | 98,7 | .99443 | 7,0 | .20172 | 269,5 | 80 50 39.64 |
| .412 | .98742 | 15,8 | .15813 | 98,7 | .99450 | 7,0 | .19901 | 271,2 | 80 54 05.91 |
| .413 | .98758 | 15,7 | .15714 | 98,8 | .99457 | 6,9 | .19629 | 272,9 | 80 57 32.17 |
| .414 | .98773 | 15,6 | .15615 | 98,8 | .99464 | 6,9 | .19355 | 274,7 | 81 00 58.44 |
| I. 415 | 0.98789 | 15,5 | 0.15517 | 98,8 | 9.99471 | 6,8 | 9.19080 | 276,5 | 81 04 24.70 |
| .416 | .98804 | 15,4 | .15418 | 98,8 | .99478 | 6,8 | .18802 | 278,3 | 81 07 50.97 |
| .417 | .98820 | 15,3 | .15319 | 98,8 | .99484 | 6,7 | .18523 | 280,2 | 81 11 17.23 |
| .418 | .98835 | 15,2 | .15220 | 98,8 | .99491 | 6,7 | .18242 | 282,0 | 81 14 43.50 |
| .419 | .98850 | 15,1 | .15121 | 98,9 | .99498 | 6,6 | .17959 | 283,9 | 81 18 09.76 |
| I. 420 | 0.98865 | 15,0 | 0.15023 | 98,9 | 9.99504 | 6,6 | 9.17674 | 285,8 | 81 21 36.02 |
| .421 | .98880 | 14,9 | .14924 | 98,9 | .99511 | 6,6 | .17388 | 287,8 | 81 25 02.29 |
| .422 | .98895 | 14,8 | .14825 | 98,9 | .99517 | 6,5 | .17099 | 289,7 | 81 28 28.55 |
| .423 | .98910 | 14,7 | .14726 | 98,9 | .99524 | 6,5 | .16808 | 291,7 | 81 31 54.82 |
| .424 | .98924 | 14,6 | .14627 | 98,9 | .99530 | 6,4 | .16515 | 293,7 | 81 35 21.08 |
| I. 425 | 0.98939 | 14,5 | 0.14528 | 98,9 | 9.99537 | 6,4 | 9.16221 | 295,8 | 81 38 47.35 |
| .426 | .98954 | 14,4 | .14429 | 99,0 | .99543 | 6,3 | .15924 | 297,8 | 81 42 13.61 |
| .427 | .98968 | 14,3 | .14330 | 99,0 | .99549 | 6,3 | .15625 | 299,9 | 81 45 39.88 |
| .428 | .98982 | 14,2 | .14231 | 99,0 | .99556 | 6,2 | .15324 | 302,1 | 81 49 06.14 |
| .429 | .98996 | 14,1 | .14132 | 99,0 | .99562 | 6,2 | .15021 | 304,2 | 81 52 32.41 |
| I. 430 | 0.99010 | 14,0 | 0.14033 | 99,0 | 9.99568 | 6,2 | 9.14716 | 306,4 | 81 55 58.67 |
| .431 | .99024 | 13,9 | .13934 | 99,0 | .99574 | 6,1 | .14408 | 308,6 | 81 59 24.94 |
| .432 | .99038 | 13,8 | .13835 | 99,0 | .99580 | 6,1 | .14098 | 310,9 | 82 02 51.20 |
| .433 | .99052 | 13,7 | .13736 | 99,1 | .99586 | 6,0 | .13786 | 313,2 | 82 06 17.47 |
| .434 | .99066 | 13,6 | .13637 | 99,1 | .99592 | 6,0 | .13472 | 315,5 | 82 09 43.73 |
| I. 435 | 0.99079 | 13,5 | 0.13538 | 99,1 | 9.99598 | 5,9 | 9.13155 | 317,8 | 82 13 10.00 |
| .436 | .99093 | 13,4 | .13439 | 99,1 | .99604 | 5,9 | .12836 | 320,2 | 82 16 36.26 |
| .437 | .99106 | 13,3 | .13340 | 99,1 | .99610 | 5,8 | .12515 | 322,7 | 82 20 02.53 |
| .438 | .99120 | 13,2 | .13241 | 99,1 | .99616 | 5,8 | .12191 | 325,1 | 82 23 28.79 |
| .439 | .99133 | 13,1 | .13142 | 99,1 | .99622 | 5,8 | .11865 | 327,6 | 82 26 55.06 |
| I. 440 | 0.99146 | 13,0 | 0.13042 | 99,1 | 9.99627 | 5,7 | 9.11536 | 330,1 | 82 30 21.32 |
| .441 | .99159 | 12,9 | .12943 | 99,2 | .99633 | 5,7 | .11204 | 332,7 | 82 33 47.59 |
| .442 | .99172 | 12,8 | .12844 | 99,2 | .99639 | 5,6 | .10870 | 335,3 | 82 37 13.85 |
| .443 | .99185 | 12,7 | .12745 | 99,2 | .99644 | 5,6 | .10534 | 338,0 | 82 40 40.12 |
| .444 | .99197 | 12,6 | .12646 | 99,2 | .99650 | 5,5 | .10194 | 340,7 | 82 44 06.38 |
| I. 445 | 0.99210 | 12,5 | 0.12546 | 99,2 | 9.99655 | 5,5 | 9.09852 | 343,4 | 82 47 32.65 |
| .446 | .99222 | 12,4 | .12447 | 99,2 | .99661 | 5,4 | .09507 | 346,2 | 82 50 58.91 |
| .447 | .99235 | 12,3 | .12348 | 99,2 | .99666 | 5,4 | .09160 | 349,0 | 82 54 25.17 |
| .448 | .99247 | 12,2 | .12249 | 99,2 | .99672 | 5,4 | .08809 | 351,9 | 82 57 51.44 |
| .449 | .99259 | 12,1 | .12150 | 99,3 | .99677 | 5,3 | .08456 | 354,8 | 83 01 17.70 |
| I. 450 | 0.99271 | 12,1 | 0.12050 | 99,3 | 9.99682 | 5,3 | 9.08100 | 357,8 | 83 04 43.97 |
| u | -i sinh iu | $\omega F_0'$ | cosh iu | $\omega F_0'$ | $\log \frac{\sinh iu}{i}$ | $\omega F_0'$ | log cosh iu | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|---------|---------------|-------------------------|---------------|------------|---------------|---------------|
| I. 450 | 0.99271 | 12,1 | 0.12050 | 99,3 | 9.99682 | 5,3 | 9.08100 | 357,8 | 83° 04' 43.97 |
| .451 | .99283 | 12,0 | .11951 | 99,3 | .99688 | 5,2 | .07740 | 360,8 | 83 08 10.23 |
| .452 | .99295 | 11,9 | .11852 | 99,3 | .99693 | 5,2 | .07378 | 363,9 | 83 11 36.50 |
| .453 | .99307 | 11,8 | .11752 | 99,3 | .99698 | 5,1 | .07013 | 367,0 | 83 15 02.76 |
| .454 | .99319 | 11,7 | .11653 | 99,3 | .99703 | 5,1 | .06644 | 370,1 | 83 18 29.03 |
| I. 455 | 0.99330 | 11,6 | 0.11554 | 99,3 | 9.99708 | 5,1 | 9.06272 | 373,4 | 83 21 55.29 |
| .456 | .99342 | 11,5 | .11454 | 99,3 | .99713 | 5,0 | .05897 | 376,7 | 83 25 21.56 |
| .457 | .99353 | 11,4 | .11355 | 99,4 | .99718 | 5,0 | .05519 | 380,0 | 83 28 47.82 |
| .458 | .99365 | 11,3 | .11256 | 99,4 | .99723 | 4,9 | .05137 | 383,4 | 83 32 14.09 |
| .459 | .99376 | 11,2 | .11156 | 99,4 | .99728 | 4,9 | .04752 | 386,8 | 83 35 40.35 |
| I. 460 | 0.99387 | 11,1 | 0.11057 | 99,4 | 9.99733 | 4,8 | 9.04364 | 390,4 | 83 39 06.62 |
| .461 | .99398 | 11,0 | .10958 | 99,4 | .99738 | 4,8 | .03971 | 394,0 | 83 42 32.88 |
| .462 | .99409 | 10,9 | .10858 | 99,4 | .99742 | 4,7 | .03576 | 397,6 | 83 45 59.15 |
| .463 | .99420 | 10,8 | .10759 | 99,4 | .99747 | 4,7 | .03176 | 401,3 | 83 49 25.41 |
| .464 | .99430 | 10,7 | .10659 | 99,4 | .99752 | 4,7 | .02773 | 405,1 | 83 52 51.68 |
| I. 465 | 0.99441 | 10,6 | 0.10560 | 99,4 | 9.99756 | 4,6 | 9.02366 | 409,0 | 83 56 17.94 |
| .466 | .99451 | 10,5 | .10460 | 99,5 | .99761 | 4,6 | .01955 | 412,9 | 83 59 44.21 |
| .467 | .99462 | 10,4 | .10361 | 99,5 | .99766 | 4,5 | .01540 | 416,9 | 84 03 10.47 |
| .468 | .99472 | 10,3 | .10262 | 99,5 | .99770 | 4,5 | .01121 | 421,0 | 84 06 36.74 |
| .469 | .99482 | 10,2 | .10162 | 99,5 | .99775 | 4,4 | .00698 | 425,2 | 84 10 03.00 |
| I. 470 | 0.99492 | 10,1 | 0.10063 | 99,5 | 9.99779 | 4,4 | 9.00271 | 429,4 | 84 13 29.27 |
| .471 | .99502 | 10,0 | .09963 | 99,5 | .99783 | 4,3 | .99839 | 433,7 | 84 16 55.53 |
| .472 | .99512 | 9,9 | .09864 | 99,5 | .99788 | 4,3 | .99403 | 438,2 | 84 20 21.79 |
| .473 | .99522 | 9,8 | .09764 | 99,5 | .99792 | 4,3 | .98993 | 442,7 | 84 23 48.06 |
| .474 | .99532 | 9,7 | .09665 | 99,5 | .99796 | 4,2 | .98518 | 447,3 | 84 27 14.32 |
| I. 475 | 0.99542 | 9,6 | 0.09565 | 99,5 | 9.99800 | 4,2 | 8.98068 | 452,0 | 84 30 40.59 |
| .476 | .99551 | 9,5 | .09465 | 99,6 | .99805 | 4,1 | .97614 | 456,8 | 84 34 06.85 |
| .477 | .99560 | 9,4 | .09366 | 99,6 | .99809 | 4,1 | .97155 | 461,7 | 84 37 33.12 |
| .478 | .99570 | 9,3 | .09266 | 99,6 | .99813 | 4,0 | .96691 | 466,7 | 84 40 59.38 |
| .479 | .99579 | 9,2 | .09167 | 99,6 | .99817 | 4,0 | .96222 | 471,8 | 84 44 25.65 |
| I. 480 | 0.99588 | 9,1 | 0.09067 | 99,6 | 9.99821 | 4,0 | 8.95747 | 477,0 | 84 47 51.91 |
| .481 | .99597 | 9,0 | .08968 | 99,6 | .99825 | 3,9 | .95267 | 482,3 | 84 51 18.18 |
| .482 | .99606 | 8,9 | .08868 | 99,6 | .99829 | 3,9 | .94782 | 487,8 | 84 54 44.44 |
| .483 | .99615 | 8,8 | .08768 | 99,6 | .99832 | 3,8 | .94292 | 493,4 | 84 58 10.71 |
| .484 | .99624 | 8,7 | .08669 | 99,6 | .99836 | 3,8 | .93796 | 499,1 | 85 01 36.97 |
| I. 485 | 0.99632 | 8,6 | 0.08569 | 99,6 | 9.99840 | 3,7 | 8.93294 | 504,9 | 85 05 03.24 |
| .486 | .99641 | 8,5 | .08469 | 99,6 | .99844 | 3,7 | .92786 | 510,9 | 85 08 29.50 |
| .487 | .99649 | 8,4 | .08370 | 99,6 | .99847 | 3,6 | .92272 | 517,1 | 85 11 55.77 |
| .488 | .99657 | 8,3 | .08270 | 99,7 | .99851 | 3,6 | .91751 | 523,3 | 85 15 22.03 |
| .489 | .99666 | 8,2 | .08171 | 99,7 | .99855 | 3,6 | .91225 | 529,8 | 85 18 48.30 |
| I. 490 | 0.99674 | 8,1 | 0.08071 | 99,7 | 9.99858 | 3,5 | 8.90692 | 536,3 | 85 22 14.56 |
| .491 | .99682 | 8,0 | .07971 | 99,7 | .99862 | 3,5 | .90152 | 543,1 | 85 25 40.83 |
| .492 | .99690 | 7,9 | .07871 | 99,7 | .99865 | 3,4 | .89606 | 550,0 | 85 29 07.09 |
| .493 | .99698 | 7,8 | .07772 | 99,7 | .99868 | 3,4 | .89052 | 557,1 | 85 32 33.36 |
| .494 | .99705 | 7,7 | .07672 | 99,7 | .99872 | 3,3 | .88491 | 564,4 | 85 35 59.62 |
| I. 495 | 0.99713 | 7,6 | 0.07572 | 99,7 | 9.99875 | 3,3 | 8.87923 | 571,9 | 85 39 25.89 |
| .496 | .99720 | 7,5 | .07473 | 99,7 | .99878 | 3,3 | .87348 | 579,6 | 85 42 52.15 |
| .497 | .99728 | 7,4 | .07373 | 99,7 | .99882 | 3,2 | .86764 | 587,4 | 85 46 18.41 |
| .498 | .99735 | 7,3 | .07273 | 99,7 | .99885 | 3,2 | .86173 | 595,5 | 85 49 44.68 |
| .499 | .99742 | 7,2 | .07173 | 99,7 | .99888 | 3,1 | .85573 | 603,9 | 85 53 10.94 |
| I. 500 | 0.99749 | 7,1 | 0.07074 | 99,7 | 9.99891 | 3,1 | 8.84965 | 612,4 | 85 56 37.21 |
| u | -i sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{i}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

Circular Functions.

| u | $\sin u$ | $\omega F_0'$ | $\cos u$ | $\omega F_0'$ | $\log \sin u$ | $\omega F_0'$ | $\log \cos u$ | $\omega F_0'$ | u |
|--------|--------------|---------------|-----------|---------------|--------------------------|---------------|----------------|---------------|----------------|
| I. 500 | 0.99749 | 7,1 | 0.07074 | 99,7 | 9.99891 | 3,1 | 8.84965 | 612,4 | 85° 56' 37".21 |
| .501 | .99757 | 7,0 | .06974 | 99,8 | .99894 | 3,1 | .84348 | 621,2 | 86 00 03.47 |
| .502 | .99763 | 6,9 | .06874 | 99,8 | .99897 | 3,0 | .83722 | 630,3 | 86 03 29.74 |
| .503 | .99770 | 6,8 | .06774 | 99,8 | .99900 | 2,9 | .83087 | 639,6 | 86 06 56.00 |
| .504 | .99777 | 6,7 | .06675 | 99,8 | .99903 | 2,9 | .82443 | 649,2 | 86 10 22.27 |
| I. 505 | 0.99784 | 6,6 | 0.06575 | 99,8 | 9.99906 | 2,9 | 8.81789 | 659,1 | 86 13 48.53 |
| .506 | .99790 | 6,5 | .06475 | 99,8 | .99909 | 2,8 | .81125 | 669,3 | 86 17 14.80 |
| .507 | .99797 | 6,4 | .06375 | 99,8 | .99912 | 2,8 | .80450 | 679,8 | 86 20 41.06 |
| .508 | .99803 | 6,3 | .06276 | 99,8 | .99914 | 2,7 | .79765 | 690,7 | 86 24 07.33 |
| .509 | .99809 | 6,2 | .06176 | 99,8 | .99917 | 2,7 | .79069 | 701,9 | 86 27 33.59 |
| I. 510 | 0.99815 | 6,1 | 0.06076 | 99,8 | 9.99920 | 2,6 | 8.78361 | 713,5 | 86 30 59.86 |
| .511 | .99821 | 6,0 | .05976 | 99,8 | .99922 | 2,6 | .77642 | 725,4 | 86 34 26.12 |
| .512 | .99827 | 5,9 | .05876 | 99,8 | .99925 | 2,6 | .76910 | 737,8 | 86 37 52.39 |
| .513 | .99833 | 5,8 | .05776 | 99,8 | .99927 | 2,5 | .76166 | 750,6 | 86 41 18.65 |
| .514 | .99839 | 5,7 | .05677 | 99,8 | .99930 | 2,5 | .75409 | 763,8 | 86 44 44.92 |
| I. 515 | 0.99844 | 5,6 | 0.05577 | 99,8 | 9.99932 | 2,4 | 8.74638 | 777,5 | 86 48 11.18 |
| .516 | .99850 | 5,5 | .05477 | 99,8 | .99935 | 2,4 | .73853 | 791,8 | 86 51 37.45 |
| .517 | .99855 | 5,4 | .05377 | 99,9 | .99937 | 2,3 | .73054 | 806,5 | 86 55 03.71 |
| .518 | .99861 | 5,3 | .05277 | 99,9 | .99939 | 2,3 | .72240 | 821,8 | 86 58 29.98 |
| .519 | .99866 | 5,2 | .05177 | 99,9 | .99942 | 2,3 | .71410 | 837,7 | 87 01 56.24 |
| I. 520 | 0.99871 | 5,1 | 0.05077 | 99,9 | 9.99944 | 2,2 | 8.70565 | 854,2 | 87 05 22.51 |
| .521 | .99876 | 5,0 | .04978 | 99,9 | .99946 | 2,2 | .69702 | 871,4 | 87 08 48.77 |
| .522 | .99881 | 4,9 | .04878 | 99,9 | .99948 | 2,1 | .68821 | 889,3 | 87 12 15.04 |
| .523 | .99886 | 4,8 | .04778 | 99,9 | .99950 | 2,1 | .67923 | 907,9 | 87 15 41.30 |
| .524 | .99891 | 4,7 | .04678 | 99,9 | .99952 | 2,0 | .67005 | 927,4 | 87 19 07.56 |
| I. 525 | 0.99895 | 4,6 | 0.04578 | 99,9 | 9.99954 | 2,0 | 8.66068 | 947,7 | 87 22 33.83 |
| .526 | .99900 | 4,5 | .04478 | 99,9 | .99956 | 1,9 | .65110 | 968,8 | 87 26 00.09 |
| .527 | .99904 | 4,4 | .04378 | 99,9 | .99958 | 1,9 | .64130 | 991,0 | 87 29 26.36 |
| .528 | .99908 | 4,3 | .04278 | 99,9 | .99960 | 1,9 | .63127 | 1014,2 | 87 32 52.62 |
| .529 | .99913 | 4,2 | .04178 | 99,9 | .99962 | 1,8 | .62101 | 1038,5 | 87 36 18.89 |
| I. 530 | 0.99917 | 4,1 | 0.04079 | 99,9 | 9.99964 | 1,8 | 8.61050 | 1064,0 | 87 39 45.15 |
| .531 | .99921 | 4,0 | .03979 | 99,9 | .99966 | 1,7 | .59973 | 1090,7 | 87 43 11.42 |
| .532 | .99925 | 3,9 | .03879 | 99,9 | .99967 | 1,7 | .58868 | 1118,9 | 87 46 37.68 |
| .533 | .99929 | 3,8 | .03779 | 99,9 | .99969 | 1,6 | .57735 | 1148,5 | 87 50 03.95 |
| .534 | .99932 | 3,7 | .03679 | 99,9 | .99971 | 1,6 | .56571 | 1179,7 | 87 53 30.21 |
| I. 535 | 0.99936 | 3,6 | 0.03579 | 99,9 | 9.99972 | 1,6 | 8.55375 | 1212,7 | 87 56 56.48 |
| .536 | .99939 | 3,5 | .03479 | 99,9 | .99974 | 1,5 | .54145 | 1247,6 | 88 00 22.74 |
| .537 | .99943 | 3,4 | .03379 | 99,9 | .99975 | 1,5 | .52879 | 1284,5 | 88 03 49.01 |
| .538 | .99946 | 3,3 | .03279 | 99,9 | .99977 | 1,4 | .51575 | 1323,7 | 88 07 15.27 |
| .539 | .99949 | 3,2 | .03179 | 99,9 | .99978 | 1,4 | .50230 | 1365,4 | 88 10 41.54 |
| I. 540 | 0.99953 | 3,1 | 0.03079 | 100,0 | 9.99979 | 1,3 | 8.48843 | 1409,8 | 88 14 07.80 |
| .541 | .99956 | 3,0 | .02979 | 100,0 | .99981 | 1,3 | .47410 | 1457,1 | 88 17 34.07 |
| .542 | .99959 | 2,9 | .02879 | 100,0 | .99982 | 1,3 | .45928 | 1507,7 | 88 21 00.33 |
| .543 | .99961 | 2,8 | .02779 | 100,0 | .99983 | 1,2 | .44393 | 1562,0 | 88 24 26.60 |
| .544 | .99964 | 2,7 | .02679 | 100,0 | .99984 | 1,2 | .42802 | 1620,3 | 88 27 52.86 |
| I. 545 | 0.99967 | 2,6 | 0.02579 | 100,0 | 9.99986 | 1,1 | 8.41151 | 1683,2 | 88 31 19.13 |
| .546 | .99969 | 2,5 | .02479 | 100,0 | .99987 | 1,1 | .39434 | 1751,1 | 88 34 45.39 |
| .547 | .99972 | 2,4 | .02379 | 100,0 | .99988 | 1,0 | .37647 | 1824,7 | 88 38 11.66 |
| .548 | .99974 | 2,3 | .02279 | 100,0 | .99989 | 1,0 | .35783 | 1904,8 | 88 41 37.92 |
| .549 | .99976 | 2,2 | .02179 | 100,0 | .99990 | 0,9 | .33835 | 1992,2 | 88 45 04.18 |
| I. 550 | 0.99978 | 2,1 | 0.02079 | 100,0 | 9.99991 | 0,9 | 8.31796 | 2088,0 | 88 48 30.45 |
| u | $-i \sinh u$ | $\omega F_0'$ | $\cosh u$ | $\omega F_0'$ | $\log \frac{\sinh u}{i}$ | $\omega F_0'$ | $\log \cosh u$ | $\omega F_0'$ | u |

Circular Functions.

| u | sin u | $\omega F_0'$ | cos u | $\omega F_0'$ | log sin u | $\omega F_0'$ | log cos u | $\omega F_0'$ | u |
|--------|-----------|---------------|-----------|---------------|-------------------------|---------------|----------------------|---------------|----------------|
| I. 550 | 0.99978 | 2,1 | +0.02079 | 100,0 | 9.99991 | 0,9 | 8.31796 | 2088,0 | 88° 48' 30".45 |
| .551 | .99980 | 2,0 | .01980 | | .99991 | 0,9 | .29656 | 2193,5 | 88 51 56.71 |
| .552 | .99982 | 1,9 | .01880 | | .99992 | 0,8 | .27405 | 2310,3 | 88 55 22.98 |
| .553 | .99984 | 1,8 | .01780 | | .99993 | 0,8 | .25031 | 2440,1 | 88 58 49.24 |
| .554 | .99986 | 1,7 | .01680 | | .99994 | 0,7 | .22519 | 2585,4 | 89 02 15.51 |
| I. 555 | 0.99988 | 1,6 | +0.01580 | 100,0 | 9.99995 | 0,7 | 8.19854 | 2749,1 | 89 05 41.77 |
| .556 | .99989 | 1,5 | .01480 | | .99995 | 0,6 | .17014 | 2934,9 | 89 09 08.04 |
| .557 | .99990 | 1,4 | .01380 | | .99996 | 0,6 | .13975 | 3147,7 | 89 12 34.30 |
| .558 | .99992 | 1,3 | .01280 | | .99996 | 0,6 | .10707 | 3393,7 | 89 16 00.57 |
| .559 | .99993 | 1,2 | .01180 | | .99997 | 0,5 | .07174 | 3681,4 | 89 19 26.83 |
| I. 560 | 0.99994 | 1,1 | +0.01080 | 100,0 | 9.99997 | 0,5 | 8.03327 | 4022,5 | 89 22 53.10 |
| .561 | .99995 | 1,0 | .00980 | | .99998 | 0,4 | 7.99106 | 4433,1 | 89 26 19.36 |
| .562 | .99996 | 0,9 | .00880 | | .99998 | 0,4 | .94430 | 4937,1 | 89 29 45.63 |
| .563 | .99997 | 0,8 | .00780 | | .99999 | 0,3 | .89189 | 5570,4 | 89 33 11.89 |
| .564 | .99998 | 0,7 | .00680 | | .99999 | 0,3 | .83227 | 6390,0 | 89 36 38.16 |
| I. 565 | 0.99998 | 0,6 | +0.00580 | 100,0 | 9.99999 | 0,3 | 7.76315 | 7492,5 | 89 40 04.42 |
| .566 | .99999 | 0,5 | .00480 | | 0.00000 | 0,2 | .68091 | 9054,7 | 89 43 30.69 |
| .567 | .99999 | 0,4 | .00380 | | .00000 | 0,2 | .57936 | 11439,8 | 89 46 56.95 |
| .568 | 1.00000 | 0,3 | .00280 | | .00000 | 0,1 | .44659 | 15530,9 | 89 50 23.22 |
| .569 | 1.00000 | 0,2 | .00180 | | .00000 | 0,1 | .25438 | 24176,8 | 89 53 49.48 |
| I. 570 | 1.00000 | 0,1 | +0.00080 | 100,0 | 0.00000 | 0,0 | 6.90109 | 54537,4 | 89 57 15.75 |
| .571 | .00000 | 0,0 | — .00020 | | .00000 | 0,0 | 6.30894 ⁿ | 213228,5 | 90 00 42.01 |
| .572 | .00000 | 0,1 | .00120 | | .00000 | 0,1 | 7.08051 | 36080,7 | 90 04 08.28 |
| .573 | .00000 | 0,2 | .00220 | | .00000 | 0,1 | .34315 | 19707,7 | 90 07 34.54 |
| .574 | 0.99999 | 0,3 | .00320 | | .00000 | 0,1 | .50505 | 13550,1 | 90 11 00.81 |
| I. 575 | 0.99999 | 0,4 | — 0.00420 | 100,0 | 0.00000 | 0,2 | 7.62363 ⁿ | 10331,2 | 90 14 27.07 |
| .576 | .99999 | 0,5 | .00520 | | 9.99999 | 0,2 | .71631 | 8345,8 | 90 17 53.33 |
| .577 | .99998 | 0,6 | .00620 | | .99999 | 0,3 | .79265 | 7000,5 | 90 21 19.60 |
| .578 | .99997 | 0,7 | .00720 | | .99999 | 0,3 | .85755 | 6028,6 | 90 24 45.86 |
| .579 | .99997 | 0,8 | .00820 | | .99999 | 0,4 | .91400 | 5293,8 | 90 28 12.13 |
| I. 580 | 0.99996 | 0,9 | — 0.00920 | 100,0 | 9.99998 | 0,4 | 7.96396 ⁿ | 4718,6 | 90 31 38.39 |
| .581 | .99995 | 1,0 | .01020 | | .99998 | 0,4 | 8.00875 | 4256,1 | 90 35 04.66 |
| .582 | .99994 | 1,1 | .01120 | | .99997 | 0,5 | .04935 | 3876,2 | 90 38 30.92 |
| .583 | .99993 | 1,2 | .01220 | | .99997 | 0,5 | .08648 | 3558,5 | 90 41 57.19 |
| .584 | .99991 | 1,3 | .01320 | | .99996 | 0,6 | .12068 | 3289,0 | 90 45 23.45 |
| I. 585 | 0.99990 | 1,4 | — 0.01420 | 100,0 | 9.99996 | 0,6 | 8.15239 ⁿ | 3057,4 | 90 48 49.72 |
| .586 | .99988 | 1,5 | .01520 | | .99995 | 0,7 | .18193 | 2850,3 | 90 52 15.98 |
| .587 | .99987 | 1,6 | .01620 | | .99994 | 0,7 | .20959 | 2680,0 | 90 55 42.25 |
| .588 | .99985 | 1,7 | .01720 | | .99994 | 0,7 | .23560 | 2524,2 | 90 59 08.51 |
| .589 | .99983 | 1,8 | .01820 | | .99993 | 0,8 | .26014 | 2385,5 | 91 02 34.78 |
| I. 590 | 0.99982 | 1,9 | — 0.01920 | 100,0 | 9.99992 | 0,8 | 8.28336 ⁿ | 2261,2 | 91 06 01.04 |
| .591 | .99980 | 2,0 | .02020 | | .99991 | 0,9 | .30540 | 2149,3 | 91 09 27.31 |
| .592 | .99978 | 2,1 | .02120 | | .99990 | 0,9 | .32638 | 2047,9 | 91 12 53.57 |
| .593 | .99975 | 2,2 | .02220 | | .99989 | 1,0 | .34639 | 1955,6 | 91 16 19.84 |
| .594 | .99973 | 2,3 | .02320 | | .99988 | 1,0 | .36552 | 1871,3 | 91 19 46.10 |
| I. 595 | 0.99971 | 2,4 | — 0.02420 | 100,0 | 9.99987 | 1,1 | 8.38384 ⁿ | 1794,0 | 91 23 12.37 |
| .596 | .99968 | 2,5 | .02520 | | .99986 | 1,1 | .40142 | 1722,8 | 91 26 38.63 |
| .597 | .99966 | 2,6 | .02620 | | .99985 | 1,1 | .41831 | 1657,0 | 91 30 04.90 |
| .598 | .99963 | 2,7 | .02720 | | .99984 | 1,2 | .43457 | 1596,1 | 91 33 31.16 |
| .599 | .99960 | 2,8 | .02820 | | .99983 | 1,2 | .45025 | 1539,4 | 91 36 57.43 |
| I. 600 | 0.99957 | 2,9 | — 0.02920 | 100,0 | 9.99981 | 1,3 | 8.46538 ⁿ | 1486,7 | 91 40 23.69 |
| u | —1 sinh u | $\omega F_0'$ | cosh u | $\omega F_0'$ | log $\frac{\sinh u}{u}$ | $\omega F_0'$ | log cosh u | $\omega F_0'$ | u |

TABLE IV

THE ASCENDING AND DESCENDING EXPONENTIAL AND
 $\text{Log}_{10}(e^u)$

NOTE.—In Table IV, for u greater than 2.302, the tabulated values of the ascending exponential may sometimes be erroneous to one unit in the last place.

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.000 | 0.000 0000 | 1.000 000 | 1.000 0000 | 0.050 | 0.021 7147 | 1.051 271 | 0.951 2294 |
| .001 | .000 4343 | .001 001 | 0.999 0005 | .051 | .022 1490 | .052 323 | .950 2787 |
| .002 | .000 8686 | .002 002 | .998 0020 | .052 | .022 5833 | .053 376 | .949 3289 |
| .003 | .001 3029 | .003 005 | .997 0045 | .053 | .023 0176 | .054 430 | .948 3800 |
| .004 | .001 7372 | .004 008 | .996 0080 | .054 | .023 4519 | .055 485 | .947 4321 |
| 0.005 | 0.002 1715 | 1.005 013 | 0.995 0125 | 0.055 | 0.023 8862 | 1.056 541 | 0.946 4851 |
| .006 | .002 6058 | .006 018 | .994 0180 | .056 | .024 3205 | .057 598 | .945 5391 |
| .007 | .003 0401 | .007 025 | .993 0244 | .057 | .024 7548 | .058 656 | .944 5941 |
| .008 | .003 4744 | .008 032 | .992 0319 | .058 | .025 1891 | .059 715 | .943 6499 |
| .009 | .003 9087 | .009 041 | .991 0404 | .059 | .025 6234 | .060 775 | .942 7068 |
| 0.010 | 0.004 3429 | 1.010 050 | 0.990 0498 | 0.060 | 0.026 0577 | 1.061 837 | 0.941 7645 |
| .011 | .004 7772 | .011 061 | .989 0603 | .061 | .026 4920 | .062 899 | .940 8232 |
| .012 | .005 2115 | .012 072 | .988 0717 | .062 | .026 9263 | .063 962 | .939 8829 |
| .013 | .005 6458 | .013 085 | .987 0841 | .063 | .027 3606 | .065 027 | .938 9435 |
| .014 | .006 0801 | .014 098 | .986 0975 | .064 | .027 7948 | .066 092 | .938 0050 |
| 0.015 | 0.006 5144 | 1.015 113 | 0.985 1119 | 0.065 | 0.028 2291 | 1.067 159 | 0.937 0675 |
| .016 | .006 9487 | .016 129 | .984 1273 | .066 | .028 6634 | .068 227 | .936 1309 |
| .017 | .007 3830 | .017 145 | .983 1437 | .067 | .029 0977 | .069 295 | .935 1952 |
| .018 | .007 8173 | .018 163 | .982 1610 | .068 | .029 5320 | .070 365 | .934 2605 |
| .019 | .008 2516 | .019 182 | .981 1794 | .069 | .029 9663 | .071 436 | .933 3267 |
| 0.020 | 0.008 6859 | 1.020 201 | 0.980 1987 | 0.070 | 0.030 4006 | 1.072 508 | 0.932 3938 |
| .021 | .009 1202 | .021 222 | .979 2190 | .071 | .030 8349 | .073 581 | .931 4619 |
| .022 | .009 5545 | .022 244 | .978 2402 | .072 | .031 2692 | .074 655 | .930 5309 |
| .023 | .009 9888 | .023 267 | .977 2625 | .073 | .031 7035 | .075 731 | .929 6008 |
| .024 | .010 4231 | .024 290 | .976 2857 | .074 | .032 1378 | .076 807 | .928 6717 |
| 0.025 | 0.010 8574 | 1.025 315 | 0.975 3099 | 0.075 | 0.032 5721 | 1.077 884 | 0.927 7435 |
| .026 | .011 2917 | .026 341 | .974 3351 | .076 | .033 0064 | .078 963 | .926 8162 |
| .027 | .011 7260 | .027 368 | .973 3612 | .077 | .033 4407 | .080 042 | .925 8899 |
| .028 | .012 1602 | .028 396 | .972 3884 | .078 | .033 8750 | .081 123 | .924 9644 |
| .029 | .012 5945 | .029 425 | .971 4165 | .079 | .034 3093 | .082 204 | .924 0399 |
| 0.030 | 0.013 0288 | 1.030 455 | 0.970 4455 | 0.080 | 0.034 7436 | 1.083 287 | 0.923 1163 |
| .031 | .013 4631 | .031 486 | .969 4756 | .081 | .035 1779 | .084 371 | .922 1937 |
| .032 | .013 8974 | .032 518 | .968 5066 | .082 | .035 6121 | .085 456 | .921 2720 |
| .033 | .014 3317 | .033 551 | .967 5386 | .083 | .036 0464 | .086 542 | .920 3511 |
| .034 | .014 7660 | .034 585 | .966 5715 | .084 | .036 4807 | .087 629 | .919 4313 |
| 0.035 | 0.015 2003 | 1.035 620 | 0.965 6054 | 0.085 | 0.036 9150 | 1.088 717 | 0.918 5123 |
| .036 | .015 6346 | .036 656 | .964 6403 | .086 | .037 3493 | .089 806 | .917 5942 |
| .037 | .016 0689 | .037 693 | .963 6761 | .087 | .037 7836 | .090 897 | .916 6771 |
| .038 | .016 5032 | .038 731 | .962 7129 | .088 | .038 2179 | .091 988 | .915 7609 |
| .039 | .016 9375 | .039 770 | .961 7507 | .089 | .038 6522 | .093 081 | .914 8456 |
| 0.040 | 0.017 3718 | 1.040 811 | 0.960 7894 | 0.090 | 0.039 0865 | 1.094 174 | 0.913 9312 |
| .041 | .017 8061 | .041 852 | .959 8291 | .091 | .039 5208 | .095 269 | .913 0177 |
| .042 | .018 2404 | .042 894 | .958 8698 | .092 | .039 9551 | .096 365 | .912 1051 |
| .043 | .018 6747 | .043 938 | .957 9114 | .093 | .040 3894 | .097 462 | .911 1935 |
| .044 | .019 1090 | .044 982 | .956 9540 | .094 | .040 8237 | .098 560 | .910 2828 |
| 0.045 | 0.019 5433 | 1.046 028 | 0.955 9975 | 0.095 | 0.041 2580 | 1.099 659 | 0.909 3729 |
| .046 | .019 9775 | .047 074 | .955 0420 | .096 | .041 6923 | .100 759 | .908 4640 |
| .047 | .020 4118 | .048 122 | .954 0874 | .097 | .042 1266 | .101 860 | .907 5560 |
| .048 | .020 8461 | .049 171 | .953 1338 | .098 | .042 5609 | .102 963 | .906 6489 |
| .049 | .021 2804 | .050 220 | .952 1811 | .099 | .042 9952 | .104 066 | .905 7427 |
| 0.050 | 0.021 7147 | 1.051 271 | 0.951 2294 | 0.100 | 0.043 4294 | 1.105 171 | 0.904 8374 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.100 | 0.043 4294 | 1.105 171 | 0.904 8374 | 0.150 | 0.065 1442 | 1.161 834 | 0.860 7080 |
| .101 | .043 8637 | .106 277 | .903 9330 | .151 | .065 5785 | .162 997 | .859 8477 |
| .102 | .044 2980 | .107 383 | .903 0296 | .152 | .066 0128 | .164 160 | .858 9883 |
| .103 | .044 7323 | .108 491 | .902 1270 | .153 | .066 4471 | .165 325 | .858 1297 |
| .104 | .045 1666 | .109 600 | .901 2253 | .154 | .066 8814 | .166 491 | .857 2720 |
| 0.105 | 0.045 6009 | 1.110 711 | 0.900 3245 | 0.155 | 0.067 3156 | 1.167 658 | 0.856 4152 |
| .106 | .046 0352 | .111 822 | .899 4246 | .156 | .067 7499 | .168 826 | .855 5592 |
| .107 | .046 4695 | .112 934 | .898 5257 | .157 | .068 1842 | .169 996 | .854 7041 |
| .108 | .046 9038 | .114 048 | .897 6276 | .158 | .068 6185 | .171 166 | .853 8498 |
| .109 | .047 3381 | .115 162 | .896 7304 | .159 | .069 0528 | .172 338 | .852 9964 |
| 0.110 | 0.047 7724 | 1.116 278 | 0.895 8341 | 0.160 | 0.069 4871 | 1.173 511 | 0.852 1438 |
| .111 | .048 2067 | .117 395 | .894 9387 | .161 | .069 9214 | .174 685 | .851 2921 |
| .112 | .048 6410 | .118 513 | .894 0443 | .162 | .070 3557 | .175 860 | .850 4412 |
| .113 | .049 0753 | .119 632 | .893 1507 | .163 | .070 7900 | .177 037 | .849 5912 |
| .114 | .049 5096 | .120 752 | .892 2580 | .164 | .071 2243 | .178 214 | .848 7420 |
| 0.115 | 0.049 9439 | 1.121 873 | 0.891 3661 | 0.165 | 0.071 6586 | 1.179 393 | 0.847 8937 |
| .116 | .050 3782 | .122 996 | .890 4752 | .166 | .072 0929 | .180 573 | .847 0462 |
| .117 | .050 8125 | .124 119 | .889 5852 | .167 | .072 5272 | .181 754 | .846 1996 |
| .118 | .051 2467 | .125 244 | .888 6961 | .168 | .072 9615 | .182 937 | .845 3538 |
| .119 | .051 6810 | .126 370 | .887 8078 | .169 | .073 3958 | .184 120 | .844 5089 |
| 0.120 | 0.052 1153 | 1.127 497 | 0.886 9204 | 0.170 | 0.073 8301 | 1.185 305 | 0.843 6648 |
| .121 | .052 5496 | .128 625 | .886 0340 | .171 | .074 2644 | .186 491 | .842 8216 |
| .122 | .052 9839 | .129 754 | .885 1484 | .172 | .074 6987 | .187 678 | .841 9792 |
| .123 | .053 4182 | .130 884 | .884 2637 | .173 | .075 1329 | .188 866 | .841 1376 |
| .124 | .053 8525 | .132 016 | .883 3798 | .174 | .075 5672 | .190 056 | .840 2969 |
| 0.125 | 0.054 2868 | 1.133 148 | 0.882 4969 | 0.175 | 0.076 0015 | 1.191 246 | 0.839 4570 |
| .126 | .054 7211 | .134 282 | .881 6148 | .176 | .076 4358 | .192 438 | .838 6180 |
| .127 | .055 1554 | .135 417 | .880 7337 | .177 | .076 8701 | .193 631 | .837 7798 |
| .128 | .055 5897 | .136 553 | .879 8534 | .178 | .077 3044 | .194 825 | .836 9424 |
| .129 | .056 0240 | .137 690 | .878 9740 | .179 | .077 7387 | .196 021 | .836 1059 |
| 0.130 | 0.056 4583 | 1.138 828 | 0.878 0954 | 0.180 | 0.078 1730 | 1.197 217 | 0.835 2702 |
| .131 | .056 8926 | .139 968 | .877 2178 | .181 | .078 6073 | .198 415 | .834 4354 |
| .132 | .057 3269 | .141 108 | .876 3410 | .182 | .079 0416 | .199 614 | .833 6013 |
| .133 | .057 7612 | .142 250 | .875 4651 | .183 | .079 4759 | .200 814 | .832 7682 |
| .134 | .058 1955 | .143 393 | .874 5901 | .184 | .079 9102 | .202 016 | .831 9358 |
| 0.135 | 0.058 6298 | 1.144 537 | 0.873 7159 | 0.185 | 0.080 3445 | 1.203 218 | 0.831 1043 |
| .136 | .059 0640 | .145 682 | .872 8426 | .186 | .080 7788 | .204 422 | .830 2736 |
| .137 | .059 4983 | .146 828 | .871 9702 | .187 | .081 2131 | .205 627 | .829 4437 |
| .138 | .059 9326 | .147 976 | .871 0987 | .188 | .081 6474 | .206 834 | .828 6147 |
| .139 | .060 3669 | .149 124 | .870 2280 | .189 | .082 0817 | .208 041 | .827 7865 |
| 0.140 | 0.060 8012 | 1.150 274 | 0.869 3582 | 0.190 | 0.082 5160 | 1.209 250 | 0.826 9591 |
| .141 | .061 2355 | .151 425 | .868 4893 | .191 | .082 9502 | .210 459 | .826 1326 |
| .142 | .061 6698 | .152 577 | .867 6213 | .192 | .083 3845 | .211 671 | .825 3069 |
| .143 | .062 1041 | .153 730 | .866 7541 | .193 | .083 8188 | .212 883 | .824 4820 |
| .144 | .062 5384 | .154 884 | .865 8877 | .194 | .084 2531 | .214 096 | .823 6579 |
| 0.145 | 0.062 9727 | 1.156 040 | 0.865 0223 | 0.195 | 0.084 6874 | 1.215 311 | 0.822 8347 |
| .146 | .063 4070 | .157 196 | .864 1577 | .196 | .085 1217 | .216 527 | .822 0122 |
| .147 | .063 8413 | .158 354 | .863 2940 | .197 | .085 5560 | .217 744 | .821 1906 |
| .148 | .064 2756 | .159 513 | .862 4311 | .198 | .085 9903 | .218 962 | .820 3699 |
| .149 | .064 7099 | .160 673 | .861 5691 | .199 | .086 4246 | .220 182 | .819 5499 |
| 0.150 | 0.065 1442 | 1.161 834 | 0.860 7080 | 0.200 | 0.086 8589 | 1.221 403 | 0.818 7308 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.200 | 0.086 8589 | 1.221 403 | 0.818 7308 | 0.250 | 0.108 5736 | 1.284 025 | 0.778 8008 |
| .201 | .087 2932 | .222 625 | .817 9124 | .251 | .109 0079 | .285 310 | .778 0224 |
| .202 | .087 7275 | .223 848 | .817 0949 | .252 | .109 4422 | .286 596 | .777 2447 |
| .203 | .088 1618 | .225 072 | .816 2782 | .253 | .109 8765 | .287 883 | .776 4679 |
| .204 | .088 5961 | .226 298 | .815 4624 | .254 | .110 3108 | .289 172 | .775 6918 |
| 0.205 | 0.089 0304 | 1.227 525 | 0.814 6473 | 0.255 | 0.110 7451 | 1.290 462 | 0.774 9165 |
| .206 | .089 4647 | .228 753 | .813 8331 | .256 | .111 1794 | .291 753 | .774 1420 |
| .207 | .089 8990 | .229 983 | .813 0196 | .257 | .111 6137 | .293 045 | .773 3682 |
| .208 | .090 3333 | .231 213 | .812 2070 | .258 | .112 0480 | .294 339 | .772 5952 |
| .209 | .090 7675 | .232 445 | .811 3952 | .259 | .112 4823 | .295 634 | .771 8230 |
| 0.210 | 0.091 2018 | 1.233 678 | 0.810 5842 | 0.260 | 0.112 9166 | 1.296 930 | 0.771 0516 |
| .211 | .091 6361 | .234 912 | .809 7741 | .261 | .113 3509 | .298 228 | .770 2809 |
| .212 | .092 0704 | .236 148 | .808 9647 | .262 | .113 7852 | .299 527 | .769 5110 |
| .213 | .092 5047 | .237 385 | .808 1561 | .263 | .114 2194 | .300 827 | .768 7419 |
| .214 | .092 9390 | .238 623 | .807 3484 | .264 | .114 6537 | .302 128 | .767 9735 |
| 0.215 | 0.093 3733 | 1.239 862 | 0.806 5414 | 0.265 | 0.115 0880 | 1.303 431 | 0.767 2059 |
| .216 | .093 8076 | .241 102 | .805 7353 | .266 | .115 5223 | .304 735 | .766 4391 |
| .217 | .094 2419 | .242 344 | .804 9300 | .267 | .115 9566 | .306 040 | .765 6731 |
| .218 | .094 6762 | .243 587 | .804 1254 | .268 | .116 3909 | .307 347 | .764 9078 |
| .219 | .095 1105 | .244 831 | .803 3217 | .269 | .116 8252 | .308 655 | .764 1433 |
| 0.220 | 0.095 5448 | 1.246 077 | 0.802 5188 | 0.270 | 0.117 2595 | 1.309 964 | 0.763 3795 |
| .221 | .095 9791 | .247 323 | .801 7167 | .271 | .117 6938 | .311 275 | .762 6165 |
| .222 | .096 4134 | .248 571 | .800 9154 | .272 | .118 1281 | .312 587 | .761 8543 |
| .223 | .096 8477 | .249 821 | .800 1148 | .273 | .118 5624 | .313 900 | .761 0928 |
| .224 | .097 2820 | .251 071 | .799 3151 | .274 | .118 9967 | .315 215 | .760 3321 |
| 0.225 | 0.097 7163 | 1.252 323 | 0.798 5162 | 0.275 | 0.119 4310 | 1.316 531 | 0.759 5721 |
| .226 | .098 1506 | .253 576 | .797 7181 | .276 | .119 8653 | .317 848 | .758 8129 |
| .227 | .098 5848 | .254 830 | .796 9208 | .277 | .120 2996 | .319 166 | .758 0545 |
| .228 | .099 0191 | .256 085 | .796 1243 | .278 | .120 7339 | .320 486 | .757 2968 |
| .229 | .099 4534 | .257 342 | .795 3285 | .279 | .121 1682 | .321 807 | .756 5399 |
| 0.230 | 0.099 8877 | 1.258 600 | 0.794 5336 | 0.280 | 0.121 6025 | 1.323 130 | 0.755 7837 |
| .231 | .100 3220 | .259 859 | .793 7395 | .281 | .122 0367 | .324 454 | .755 0283 |
| .232 | .100 7563 | .261 120 | .792 9461 | .282 | .122 4710 | .325 779 | .754 2737 |
| .233 | .101 1906 | .262 381 | .792 1536 | .283 | .122 9053 | .327 105 | .753 5198 |
| .234 | .101 6249 | .263 644 | .791 3618 | .284 | .123 3396 | .328 433 | .752 7666 |
| 0.235 | 0.102 0592 | 1.264 909 | 0.790 5708 | 0.285 | 0.123 7739 | 1.329 762 | 0.752 0143 |
| .236 | .102 4935 | .266 174 | .789 7807 | .286 | .124 2082 | .331 092 | .751 2626 |
| .237 | .102 9278 | .267 441 | .788 9913 | .287 | .124 6425 | .332 424 | .750 5117 |
| .238 | .103 3621 | .268 709 | .788 2027 | .288 | .125 0768 | .333 757 | .749 7616 |
| .239 | .103 7964 | .269 979 | .787 4149 | .289 | .125 5111 | .335 092 | .749 0122 |
| 0.240 | 0.104 2307 | 1.271 249 | 0.786 6279 | 0.290 | 0.125 9454 | 1.336 427 | 0.748 2636 |
| .241 | .104 6650 | .272 521 | .785 8416 | .291 | .126 3797 | .337 765 | .747 5157 |
| .242 | .105 0993 | .273 794 | .785 0562 | .292 | .126 8140 | .339 103 | .746 7685 |
| .243 | .105 5336 | .275 069 | .784 2715 | .293 | .127 2483 | .340 443 | .746 0221 |
| .244 | .105 9679 | .276 344 | .783 4876 | .294 | .127 6826 | .341 784 | .745 2765 |
| 0.245 | 0.106 4021 | 1.277 621 | 0.782 7045 | 0.295 | 0.128 1169 | 1.343 126 | 0.744 5316 |
| .246 | .106 8364 | .278 900 | .781 9222 | .296 | .128 5512 | .344 470 | .743 7874 |
| .247 | .107 2707 | .280 179 | .781 1407 | .297 | .128 9855 | .345 815 | .743 0440 |
| .248 | .107 7050 | .281 460 | .780 3599 | .298 | .129 4198 | .347 162 | .742 3013 |
| .249 | .108 1393 | .282 742 | .779 5800 | .299 | .129 8541 | .348 510 | .741 5594 |
| 0.250 | 0.108 5736 | 1.284 025 | 0.778 8008 | 0.300 | 0.130 2883 | 1.349 859 | 0.740 8182 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.300 | 0.130 2883 | 1.349 859 | 0.740 8182 | 0.350 | 0.152 0031 | 1.419 068 | 0.704 6881 |
| .301 | .130 7226 | .351 209 | .740 0778 | .351 | .152 4374 | .420 487 | .703 9838 |
| .302 | .131 1569 | .352 561 | .739 3381 | .352 | .152 8717 | .421 909 | .703 2801 |
| .303 | .131 5912 | .353 914 | .738 5991 | .353 | .153 3060 | .423 331 | .702 5772 |
| .304 | .132 0255 | .355 269 | .737 8609 | .354 | .153 7402 | .424 755 | .701 8750 |
| 0.305 | 0.132 4598 | 1.356 625 | 0.737 1234 | 0.355 | 0.154 1745 | 1.426 181 | 0.701 1734 |
| .306 | .132 8941 | .357 982 | .736 3866 | .356 | .154 6088 | .427 608 | .700 4726 |
| .307 | .133 3284 | .359 341 | .735 6506 | .357 | .155 0431 | .429 036 | .699 7725 |
| .308 | .133 7627 | .360 701 | .734 9153 | .358 | .155 4774 | .430 466 | .699 0731 |
| .309 | .134 1970 | .362 062 | .734 1808 | .359 | .155 9117 | .431 897 | .698 3744 |
| 0.310 | 0.134 6313 | 1.363 425 | 0.733 4470 | 0.360 | 0.156 3460 | 1.433 329 | 0.697 6763 |
| .311 | .135 0656 | .364 789 | .732 7139 | .361 | .156 7803 | .434 763 | .696 9790 |
| .312 | .135 4999 | .366 155 | .731 9815 | .362 | .157 2146 | .436 199 | .696 2824 |
| .313 | .135 9342 | .367 522 | .731 2499 | .363 | .157 6489 | .437 636 | .695 5864 |
| .314 | .136 3685 | .368 890 | .730 5190 | .364 | .158 0832 | .439 074 | .694 8912 |
| 0.315 | 0.136 8028 | 1.370 259 | 0.729 7889 | 0.365 | 0.158 5175 | 1.440 514 | 0.694 1967 |
| .316 | .137 2371 | .371 630 | .729 0595 | .366 | .158 9518 | .441 955 | .693 5028 |
| .317 | .137 6714 | .373 003 | .728 3308 | .367 | .159 3861 | .443 398 | .692 8096 |
| .318 | .138 1056 | .374 376 | .727 6028 | .368 | .159 8204 | .444 842 | .692 1172 |
| .319 | .138 5399 | .375 751 | .726 8755 | .369 | .160 2547 | .446 288 | .691 4254 |
| 0.320 | 0.138 9742 | 1.377 128 | 0.726 1490 | 0.370 | 0.160 6890 | 1.447 735 | 0.690 7343 |
| .321 | .139 4085 | .378 506 | .725 4233 | .371 | .161 1233 | .449 183 | .690 0439 |
| .322 | .139 8428 | .379 885 | .724 6982 | .372 | .161 5575 | .450 633 | .689 3542 |
| .323 | .140 2771 | .381 265 | .723 9739 | .373 | .161 9918 | .452 084 | .688 6652 |
| .324 | .140 7114 | .382 647 | .723 2502 | .374 | .162 4261 | .453 537 | .687 9769 |
| 0.325 | 0.141 1457 | 1.384 031 | 0.722 5274 | 0.375 | 0.162 8604 | 1.454 991 | 0.687 2893 |
| .326 | .141 5800 | .385 415 | .721 8052 | .376 | .163 2947 | .456 447 | .686 6023 |
| .327 | .142 0143 | .386 801 | .721 0837 | .377 | .163 7290 | .457 904 | .685 9161 |
| .328 | .142 4486 | .388 189 | .720 3630 | .378 | .164 1633 | .459 363 | .685 2305 |
| .329 | .142 8829 | .389 578 | .719 6430 | .379 | .164 5976 | .460 823 | .684 5456 |
| 0.330 | 0.143 3172 | 1.390 968 | 0.718 9237 | 0.380 | 0.165 0319 | 1.462 285 | 0.683 8614 |
| .331 | .143 7515 | .392 360 | .718 2052 | .381 | .165 4662 | .463 748 | .683 1779 |
| .332 | .144 1858 | .393 753 | .717 4873 | .382 | .165 9005 | .465 212 | .682 4951 |
| .333 | .144 6201 | .395 147 | .716 7702 | .383 | .166 3348 | .466 678 | .681 8129 |
| .334 | .145 0544 | .396 543 | .716 0538 | .384 | .166 7691 | .468 145 | .681 1314 |
| 0.335 | 0.145 4887 | 1.397 940 | 0.715 3381 | 0.385 | 0.167 2034 | 1.469 614 | 0.680 4506 |
| .336 | .145 9229 | .399 339 | .714 6231 | .386 | .167 6377 | .471 085 | .679 7705 |
| .337 | .146 3572 | .400 739 | .713 9088 | .387 | .168 0720 | .472 556 | .679 0911 |
| .338 | .146 7915 | .402 141 | .713 1953 | .388 | .168 5063 | .474 030 | .678 4123 |
| .339 | .147 2258 | .403 543 | .712 4824 | .389 | .168 9406 | .475 505 | .677 7343 |
| 0.340 | 0.147 6601 | 1.404 948 | 0.711 7703 | 0.390 | 0.169 3748 | 1.476 981 | 0.677 0569 |
| .341 | .148 0944 | .406 353 | .711 0589 | .391 | .169 8091 | .478 459 | .676 3802 |
| .342 | .148 5287 | .407 760 | .710 3482 | .392 | .170 2434 | .479 938 | .675 7041 |
| .343 | .148 9630 | .409 169 | .709 6382 | .393 | .170 6777 | .481 418 | .675 0287 |
| .344 | .149 3973 | .410 579 | .708 9289 | .394 | .171 1120 | .482 901 | .674 3541 |
| 0.345 | 0.149 8316 | 1.411 990 | 0.708 2204 | 0.395 | 0.171 5463 | 1.484 384 | 0.673 6800 |
| .346 | .150 2659 | .413 403 | .707 5125 | .396 | .171 9806 | .485 869 | .673 0057 |
| .347 | .150 7002 | .414 817 | .706 8053 | .397 | .172 4149 | .487 356 | .672 3340 |
| .348 | .151 1345 | .416 232 | .706 0989 | .398 | .172 8492 | .488 844 | .671 6620 |
| .349 | .151 5688 | .417 649 | .705 3931 | .399 | .173 2835 | .490 334 | .670 9907 |
| 0.350 | 0.152 0031 | 1.419 068 | 0.704 6881 | 0.400 | 0.173 7178 | 1.491 825 | 0.670 3200 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.400 | 0.173 7178 | 1.491 825 | 0.670 3200 | 0.450 | 0.195 4325 | 1.568 312 | 0.637 6282 |
| .401 | .174 1521 | .493 317 | .669 6501 | .451 | .195 8668 | .569 881 | .636 9908 |
| .402 | .174 5864 | .494 811 | .668 9807 | .452 | .196 3011 | .571 452 | .636 3542 |
| .403 | .175 0207 | .496 307 | .668 3121 | .453 | .196 7354 | .573 024 | .635 7181 |
| .404 | .175 4550 | .497 804 | .667 6441 | .454 | .197 1697 | .574 598 | .635 0827 |
| 0.405 | 0.175 8893 | 1.499 303 | 0.666 9768 | 0.455 | 0.197 6040 | 1.576 173 | 0.634 4480 |
| .406 | .176 3236 | .500 803 | .666 3102 | .456 | .198 0383 | .577 750 | .633 8138 |
| .407 | .176 7579 | .502 304 | .665 6442 | .457 | .198 4726 | .579 329 | .633 1803 |
| .408 | .177 1921 | .503 807 | .664 9789 | .458 | .198 9069 | .580 909 | .632 5475 |
| .409 | .177 6264 | .505 312 | .664 3142 | .459 | .199 3412 | .582 491 | .631 9152 |
| 0.410 | 0.178 0607 | 1.506 818 | 0.663 6503 | 0.460 | 0.199 7755 | 1.584 074 | 0.631 2836 |
| .411 | .178 4950 | .508 325 | .662 9869 | .461 | .200 2098 | .585 659 | .630 6527 |
| .412 | .178 9293 | .509 834 | .662 3243 | .462 | .200 6441 | .587 245 | .630 0223 |
| .413 | .179 3636 | .511 345 | .661 6623 | .463 | .201 0783 | .588 833 | .629 3926 |
| .414 | .179 7979 | .512 857 | .661 0010 | .464 | .201 5126 | .590 423 | .628 7636 |
| 0.415 | 0.180 2322 | 1.514 371 | 0.660 3403 | 0.465 | 0.201 9469 | 1.592 014 | 0.628 1351 |
| .416 | .180 6665 | .515 886 | .659 6803 | .466 | .202 3812 | .593 607 | .627 5073 |
| .417 | .181 1008 | .517 403 | .659 0209 | .467 | .202 8155 | .595 201 | .626 8801 |
| .418 | .181 5351 | .518 921 | .658 3622 | .468 | .203 2498 | .596 797 | .626 2535 |
| .419 | .181 9694 | .520 440 | .657 7042 | .469 | .203 6841 | .598 395 | .625 6276 |
| 0.420 | 0.182 4037 | 1.521 962 | 0.657 0468 | 0.470 | 0.204 1184 | 1.599 994 | 0.625 0023 |
| .421 | .182 8380 | .523 484 | .656 3901 | .471 | .204 5527 | .601 595 | .624 3776 |
| .422 | .183 2723 | .525 009 | .655 7340 | .472 | .204 9870 | .603 197 | .623 7535 |
| .423 | .183 7066 | .526 534 | .655 0786 | .473 | .205 4213 | .604 801 | .623 1301 |
| .424 | .184 1409 | .528 062 | .654 4239 | .474 | .205 8556 | .606 407 | .622 5073 |
| 0.425 | 0.184 5752 | 1.529 590 | 0.653 7698 | 0.475 | 0.206 2899 | 1.608 014 | 0.621 8851 |
| .426 | .185 0094 | .531 121 | .653 1163 | .476 | .206 7242 | .609 623 | .621 2635 |
| .427 | .185 4437 | .532 653 | .652 4636 | .477 | .207 1585 | .611 233 | .620 6425 |
| .428 | .185 8780 | .534 187 | .651 8114 | .478 | .207 5928 | .612 845 | .620 0222 |
| .429 | .186 3123 | .535 721 | .651 1599 | .479 | .208 0271 | .614 459 | .619 4025 |
| 0.430 | 0.186 7466 | 1.537 258 | 0.650 5091 | 0.480 | 0.208 4614 | 1.616 074 | 0.618 7834 |
| .431 | .187 1809 | .538 796 | .649 8589 | .481 | .208 8956 | .617 691 | .618 1649 |
| .432 | .187 6152 | .540 335 | .649 2094 | .482 | .209 3299 | .619 310 | .617 5471 |
| .433 | .188 0495 | .541 876 | .648 5605 | .483 | .209 7642 | .620 930 | .616 9298 |
| .434 | .188 4838 | .543 419 | .647 9123 | .484 | .210 1985 | .622 552 | .616 3132 |
| 0.435 | 0.188 9181 | 1.544 963 | 0.647 2647 | 0.485 | 0.210 6328 | 1.624 175 | 0.615 6972 |
| .436 | .189 3524 | .546 509 | .646 6177 | .486 | .211 0671 | .625 800 | .615 0818 |
| .437 | .189 7867 | .548 056 | .645 9714 | .487 | .211 5014 | .627 427 | .614 4670 |
| .438 | .190 2210 | .549 605 | .645 3258 | .488 | .211 9357 | .629 055 | .613 8529 |
| .439 | .190 6553 | .551 155 | .644 6808 | .489 | .212 3700 | .630 685 | .613 2393 |
| 0.440 | 0.191 0896 | 1.552 707 | 0.644 0364 | 0.490 | 0.212 8043 | 1.632 316 | 0.612 6264 |
| .441 | .191 5239 | .554 261 | .643 3927 | .491 | .213 2386 | .633 949 | .612 0141 |
| .442 | .191 9582 | .555 816 | .642 7496 | .492 | .213 6729 | .635 584 | .611 4024 |
| .443 | .192 3925 | .557 372 | .642 1072 | .493 | .214 1072 | .637 221 | .610 7913 |
| .444 | .192 8267 | .558 930 | .641 4654 | .494 | .214 5415 | .638 859 | .610 1808 |
| 0.445 | 0.193 2610 | 1.560 490 | 0.640 8243 | 0.495 | 0.214 9758 | 1.640 498 | 0.609 5709 |
| .446 | .193 6953 | .562 051 | .640 1838 | .496 | .215 4101 | .642 140 | .608 9616 |
| .447 | .194 1296 | .563 614 | .639 5439 | .497 | .215 8444 | .643 783 | .608 3530 |
| .448 | .194 5639 | .565 179 | .638 9047 | .498 | .216 2787 | .645 427 | .607 7449 |
| .449 | .194 9982 | .566 745 | .638 2661 | .499 | .216 7129 | .647 073 | .607 1375 |
| 0.450 | 0.195 4325 | 1.568 312 | 0.637 6282 | 0.500 | 0.217 1472 | 1.648 721 | 0.606 5307 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.500 | 0.217 1472 | 1.648 721 | 0.606 5307 | 0.550 | 0.238 8620 | 1.733 253 | 0.576 9498 |
| .501 | .217 5815 | .650 371 | .605 9244 | .551 | .239 2963 | .734 987 | .576 3731 |
| .502 | .218 0158 | .652 022 | .605 3188 | .552 | .239 7306 | .736 723 | .575 7971 |
| .503 | .218 4501 | .653 675 | .604 7138 | .553 | .240 1648 | .738 461 | .575 2216 |
| .504 | .218 8844 | .655 329 | .604 1094 | .554 | .240 5991 | .740 200 | .574 6466 |
| 0.505 | 0.219 3187 | 1.656 086 | 0.603 5056 | 0.555 | 0.241 0334 | 1.741 941 | 0.574 0723 |
| .506 | .219 7530 | .658 643 | .602 9024 | .556 | .241 4677 | .743 684 | .573 4985 |
| .507 | .220 1873 | .660 303 | .602 2998 | .557 | .241 9020 | .745 428 | .572 9253 |
| .508 | .220 6216 | .661 964 | .601 6978 | .558 | .242 3363 | .747 175 | .572 3526 |
| .509 | .221 0559 | .663 627 | .601 0964 | .559 | .242 7706 | .748 923 | .571 7806 |
| 0.510 | 0.221 4902 | 1.665 291 | 0.600 4956 | 0.560 | 0.243 2049 | 1.750 673 | 0.571 2091 |
| .511 | .221 9245 | .666 957 | .599 8954 | .561 | .243 6392 | .752 424 | .570 6381 |
| .512 | .222 3588 | .668 625 | .599 2958 | .562 | .244 0735 | .754 177 | .570 0678 |
| .513 | .222 7931 | .670 295 | .598 6968 | .563 | .244 5078 | .755 932 | .569 4980 |
| .514 | .223 2274 | .671 966 | .598 0984 | .564 | .244 9421 | .757 689 | .568 9288 |
| 0.515 | 0.223 6617 | 1.673 639 | 0.597 5006 | 0.565 | 0.245 3764 | 1.759 448 | 0.568 3601 |
| .516 | .224 0960 | .675 313 | .596 9034 | .566 | .245 8107 | .761 208 | .567 7921 |
| .517 | .224 5302 | .676 989 | .596 3068 | .567 | .246 2450 | .762 970 | .567 2246 |
| .518 | .224 9645 | .678 667 | .595 7108 | .568 | .246 6793 | .764 734 | .566 6576 |
| .519 | .225 3988 | .680 346 | .595 1154 | .569 | .247 1136 | .766 500 | .566 0912 |
| 0.520 | 0.225 8331 | 1.682 028 | 0.594 5205 | 0.570 | 0.247 5479 | 1.768 267 | 0.565 5254 |
| .521 | .226 2674 | .683 711 | .593 9263 | .571 | .247 9821 | .770 036 | .564 9602 |
| .522 | .226 7017 | .685 395 | .593 3327 | .572 | .248 4164 | .771 807 | .564 3955 |
| .523 | .227 1360 | .687 081 | .592 7397 | .573 | .248 8507 | .773 580 | .563 8314 |
| .524 | .227 5703 | .688 769 | .592 1472 | .574 | .249 2850 | .775 354 | .563 2679 |
| 0.525 | 0.228 0046 | 1.690 459 | 0.591 5554 | 0.575 | 0.249 7193 | 1.777 131 | 0.562 7049 |
| .526 | .228 4389 | .692 150 | .590 9641 | .576 | .250 1536 | .778 909 | .562 1424 |
| .527 | .228 8732 | .693 843 | .590 3734 | .577 | .250 5879 | .780 688 | .561 5806 |
| .528 | .229 3075 | .695 538 | .589 7834 | .578 | .251 0222 | .782 470 | .561 0193 |
| .529 | .229 7418 | .697 234 | .589 1939 | .579 | .251 4565 | .784 253 | .560 4585 |
| 0.530 | 0.230 1761 | 1.698 932 | 0.588 6050 | 0.580 | 0.251 8908 | 1.786 038 | 0.559 8984 |
| .531 | .230 6104 | .700 632 | .588 0167 | .581 | .252 3251 | .787 825 | .559 3387 |
| .532 | .231 0447 | .702 334 | .587 4289 | .582 | .252 7594 | .789 614 | .558 7797 |
| .533 | .231 4790 | .704 037 | .586 8418 | .583 | .253 1937 | .791 405 | .558 2212 |
| .534 | .231 9133 | .705 742 | .586 2553 | .584 | .253 6280 | .793 197 | .557 6632 |
| 0.535 | 0.232 3475 | 1.707 448 | 0.585 6693 | 0.585 | 0.254 0623 | 1.794 991 | 0.557 1059 |
| .536 | .232 7818 | .709 157 | .585 0839 | .586 | .254 4966 | .796 787 | .556 5490 |
| .537 | .233 2161 | .710 867 | .584 4991 | .587 | .254 9309 | .798 585 | .555 9928 |
| .538 | .233 6504 | .712 578 | .583 9149 | .588 | .255 3652 | .800 384 | .555 4370 |
| .539 | .234 0847 | .714 292 | .583 3313 | .589 | .255 7994 | .802 185 | .554 8819 |
| 0.540 | 0.234 5190 | 1.716 007 | 0.582 7483 | 0.590 | 0.256 2337 | 1.803 988 | 0.554 3273 |
| .541 | .234 9533 | .717 724 | .582 1658 | .591 | .256 6680 | .805 793 | .553 7732 |
| .542 | .235 3876 | .719 442 | .581 5839 | .592 | .257 1023 | .807 600 | .553 2197 |
| .543 | .235 8219 | .721 163 | .581 0026 | .593 | .257 5366 | .809 409 | .552 6668 |
| .544 | .236 2562 | .722 885 | .580 4219 | .594 | .257 9709 | .811 219 | .552 1144 |
| 0.545 | 0.236 6905 | 1.724 608 | 0.579 8418 | 0.595 | 0.258 4052 | 1.813 031 | 0.551 5626 |
| .546 | .237 1248 | .726 334 | .579 2622 | .596 | .258 8395 | .814 845 | .551 0113 |
| .547 | .237 5591 | .728 061 | .578 6833 | .597 | .259 2738 | .816 661 | .550 4605 |
| .548 | .237 9934 | .729 790 | .578 1049 | .598 | .259 7081 | .818 478 | .549 9104 |
| .549 | .238 4277 | .731 521 | .577 5270 | .599 | .260 1424 | .820 298 | .549 3607 |
| 0.550 | 0.238 8620 | 1.733 253 | 0.576 9498 | 0.600 | 0.260 5767 | 1.822 119 | 0.548 8116 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.600 | 0.260 5767 | 1.822 119 | 0.548 8116 | 0.650 | 0.282 2914 | 1.915 541 | 0.522 0458 |
| .601 | .261 0110 | .823 942 | .548 2631 | .651 | .282 7257 | .917 457 | .521 5240 |
| .602 | .261 4453 | .825 767 | .547 7151 | .652 | .283 1600 | .919 376 | .521 0027 |
| .603 | .261 8796 | .827 593 | .547 1677 | .653 | .283 5943 | .921 296 | .520 4820 |
| .604 | .262 3139 | .829 422 | .546 6208 | .654 | .284 0286 | .923 218 | .519 9618 |
| 0.605 | 0.262 7482 | 1.831 252 | 0.546 0744 | 0.655 | 0.284 4629 | 1.925 143 | 0.519 4421 |
| .606 | .263 1825 | .833 084 | .545 5286 | .656 | .284 8972 | .927 069 | .518 9229 |
| .607 | .263 6168 | .834 918 | .544 9834 | .657 | .285 3315 | .928 997 | .518 4042 |
| .608 | .264 0510 | .836 754 | .544 4387 | .658 | .285 7658 | .930 927 | .517 8861 |
| .609 | .264 4853 | .838 592 | .543 8945 | .659 | .286 2001 | .932 859 | .517 3684 |
| 0.610 | 0.264 9196 | 1.840 431 | 0.543 3509 | 0.660 | 0.286 6344 | 1.934 792 | 0.516 8513 |
| .611 | .265 3539 | .842 273 | .542 8078 | .661 | .287 0687 | .936 728 | .516 3347 |
| .612 | .265 7882 | .844 116 | .542 2653 | .662 | .287 5029 | .938 666 | .515 8187 |
| .613 | .266 2225 | .845 961 | .541 7233 | .663 | .287 9372 | .940 605 | .515 3031 |
| .614 | .266 6568 | .847 808 | .541 1818 | .664 | .288 3715 | .942 547 | .514 7881 |
| 0.615 | 0.267 0911 | 1.849 657 | 0.540 6409 | 0.665 | 0.288 8058 | 1.944 491 | 0.514 2735 |
| .616 | .267 5254 | .851 507 | .540 1005 | .666 | .289 2401 | .946 436 | .513 7595 |
| .617 | .267 9597 | .853 360 | .539 5607 | .667 | .289 6744 | .948 383 | .513 2400 |
| .618 | .268 3940 | .855 214 | .539 0214 | .668 | .290 1087 | .950 333 | .512 7330 |
| .619 | .268 8283 | .857 070 | .538 4827 | .669 | .290 5430 | .952 284 | .512 2205 |
| 0.620 | 0.269 2626 | 1.858 928 | 0.537 9444 | 0.670 | 0.290 9773 | 1.954 237 | 0.511 7086 |
| .621 | .269 6969 | .860 788 | .537 4068 | .671 | .291 4116 | .956 193 | .511 1971 |
| .622 | .270 1312 | .862 650 | .536 8696 | .672 | .291 8459 | .958 150 | .510 6862 |
| .623 | .270 5655 | .864 513 | .536 3330 | .673 | .292 2802 | .960 109 | .510 1758 |
| .624 | .270 9998 | .866 379 | .535 7970 | .674 | .292 7145 | .962 070 | .509 6658 |
| 0.625 | 0.271 4341 | 1.868 246 | 0.535 2614 | 0.675 | 0.293 1488 | 1.964 033 | 0.509 1564 |
| .626 | .271 8683 | .870 115 | .534 7264 | .676 | .293 5831 | .965 998 | .508 6475 |
| .627 | .272 3026 | .871 986 | .534 1920 | .677 | .294 0174 | .967 965 | .508 1391 |
| .628 | .272 7369 | .873 859 | .533 6581 | .678 | .294 4517 | .969 934 | .507 6312 |
| .629 | .273 1712 | .875 734 | .533 1247 | .679 | .294 8860 | .971 905 | .507 1239 |
| 0.630 | 0.273 6055 | 1.877 611 | 0.532 5918 | 0.680 | 0.295 3202 | 1.973 878 | 0.506 6170 |
| .631 | .274 0398 | .879 489 | .532 0595 | .681 | .295 7545 | .975 853 | .506 1106 |
| .632 | .274 4741 | .881 370 | .531 5277 | .682 | .296 1888 | .977 829 | .505 6048 |
| .633 | .274 9084 | .883 252 | .530 9964 | .683 | .296 6231 | .979 808 | .505 0994 |
| .634 | .275 3427 | .885 136 | .530 4657 | .684 | .297 0574 | .981 789 | .504 5946 |
| 0.635 | 0.275 7770 | 1.887 022 | 0.529 9355 | 0.685 | 0.297 4917 | 1.983 772 | 0.504 0902 |
| .636 | .276 2113 | .888 910 | .529 4058 | .686 | .297 9260 | .985 757 | .503 5864 |
| .637 | .276 6456 | .890 800 | .528 8767 | .687 | .298 3603 | .987 743 | .503 0831 |
| .638 | .277 0799 | .892 692 | .528 3481 | .688 | .298 7946 | .989 732 | .502 5802 |
| .639 | .277 5142 | .894 585 | .527 8200 | .689 | .299 2289 | .991 723 | .502 0779 |
| 0.640 | 0.277 9485 | 1.896 481 | 0.527 2924 | 0.690 | 0.299 6632 | 1.993 716 | 0.501 5761 |
| .641 | .278 3828 | .898 378 | .526 7654 | .691 | .300 0975 | .995 710 | .501 0747 |
| .642 | .278 8171 | .900 278 | .526 2389 | .692 | .300 5318 | .997 707 | .500 5739 |
| .643 | .279 2514 | .902 179 | .525 7129 | .693 | .300 9661 | .999 706 | .500 0736 |
| .644 | .279 6856 | .904 082 | .525 1875 | .694 | .301 4004 | 2.001 706 | .499 5738 |
| 0.645 | 0.280 1199 | 1.905 987 | 0.524 6625 | 0.695 | 0.301 8347 | 2.003 709 | 0.499 0744 |
| .646 | .280 5542 | .907 894 | .524 1381 | .696 | .302 2690 | .005 714 | .498 5756 |
| .647 | .280 9885 | .909 803 | .523 6143 | .697 | .302 7033 | .007 720 | .498 0773 |
| .648 | .281 4228 | .911 714 | .523 0909 | .698 | .303 1375 | .009 729 | .497 5795 |
| .649 | .281 8571 | .913 626 | .522 5681 | .699 | .303 5718 | .011 740 | .497 0821 |
| 0.650 | 0.282 2914 | 1.915 541 | 0.522 0458 | 0.700 | 0.304 0061 | 2.013 753 | 0.496 5853 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|------------------|------------------|-----------|------------|------------------|------------------|-----------|------------|
| 0.700 | 0.304 0061 | 2.013 753 | 0.496 5853 | 0.750 | 0.325 7209 | 2.117 000 | 0.472 3666 |
| .701 | .304 4404 | .015 767 | .496 0890 | .751 | .326 1552 | .119 118 | .471 8944 |
| .702 | .304 8747 | .017 784 | .495 5931 | .752 | .326 5895 | .121 238 | .471 4228 |
| .703 | .305 3090 | .019 803 | .495 0978 | .753 | .327 0237 | .123 361 | .470 9516 |
| .704 | .305 7433 | .021 824 | .494 6029 | .754 | .327 4580 | .125 485 | .470 4809 |
| 0.705 | 0.306 1776 | 2.023 847 | 0.494 1086 | 0.755 | 0.327 8923 | 2.127 612 | 0.470 0106 |
| .706 | .306 6119 | .025 872 | .493 6147 | .756 | .328 3266 | .129 740 | .469 5408 |
| .707 | .307 0462 | .027 898 | .493 1213 | .757 | .328 7609 | .131 871 | .469 0715 |
| .708 | .307 4805 | .029 927 | .492 6285 | .758 | .329 1952 | .134 004 | .468 6027 |
| .709 | .307 9148 | .031 958 | .492 1361 | .759 | .329 6295 | .136 139 | .468 1343 |
| 0.710 | 0.308 3491 | 2.033 991 | 0.491 6442 | 0.760 | 0.330 0638 | 2.138 276 | 0.467 6664 |
| .711 | .308 7834 | .036 026 | .491 1528 | .761 | .330 4981 | .140 416 | .467 1990 |
| .712 | .309 2177 | .038 063 | .490 6619 | .762 | .330 9324 | .142 557 | .466 7320 |
| .713 | .309 6520 | .040 102 | .490 1715 | .763 | .331 3667 | .144 701 | .466 2655 |
| .714 | .310 0853 | .042 144 | .489 6815 | .764 | .331 8010 | .146 846 | .465 7995 |
| 0.715 | 0.310 5206 | 2.044 187 | 0.489 1921 | 0.765 | 0.332 2353 | 2.148 994 | 0.465 3339 |
| .716 | .310 9548 | .046 232 | .488 7032 | .766 | .332 6696 | .151 144 | .464 8688 |
| .717 | .311 3891 | .048 279 | .488 2147 | .767 | .333 1039 | .153 297 | .464 4042 |
| .718 | .311 8234 | .050 328 | .487 7267 | .768 | .333 5382 | .155 451 | .463 9400 |
| .719 | .312 2577 | .052 380 | .487 2393 | .769 | .333 9725 | .157 608 | .463 4763 |
| 0.720 | 0.312 6920 | 2.054 433 | 0.486 7523 | 0.770 | 0.334 4068 | 2.159 766 | 0.463 0131 |
| .721 | .313 1263 | .056 489 | .486 2657 | .771 | .334 8410 | .161 927 | .462 5503 |
| .722 | .313 5606 | .058 546 | .485 7797 | .772 | .335 2753 | .164 090 | .462 0880 |
| .723 | .313 9949 | .060 606 | .485 2942 | .773 | .335 7096 | .166 255 | .461 6261 |
| .724 | .314 4292 | .062 667 | .484 8091 | .774 | .336 1439 | .168 423 | .461 1647 |
| 0.725 | 0.314 8635 | 2.064 731 | 0.484 3246 | 0.775 | 0.336 5782 | 2.170 592 | 0.460 7038 |
| .726 | .315 2978 | .066 707 | .483 8405 | .776 | .337 0125 | .172 764 | .460 2433 |
| .727 | .315 7321 | .068 865 | .483 3569 | .777 | .337 4468 | .174 938 | .459 7833 |
| .728 | .316 1664 | .070 935 | .482 8738 | .778 | .337 8811 | .177 114 | .459 3237 |
| .729 | .316 6007 | .073 007 | .482 3911 | .779 | .338 3154 | .179 292 | .458 8646 |
| 0.730 | 0.317 0350 | 2.075 081 | 0.481 9090 | 0.780 | 0.338 7497 | 2.181 472 | 0.458 4060 |
| .731 | .317 4693 | .077 157 | .481 4273 | .781 | .339 1840 | .183 655 | .457 9478 |
| .732 | .317 9036 | .079 235 | .480 9461 | .782 | .339 6183 | .185 840 | .457 4901 |
| .733 | .318 3379 | .081 315 | .480 4654 | .783 | .340 0526 | .188 027 | .457 0329 |
| .734 | .318 7721 | .083 398 | .479 9852 | .784 | .340 4869 | .190 216 | .456 5760 |
| 0.735 | 0.319 2064 | 2.085 482 | 0.479 5055 | 0.785 | 0.340 9212 | 2.192 407 | 0.456 1197 |
| .736 | .319 6407 | .087 569 | .479 0262 | .786 | .341 3555 | .194 600 | .455 6638 |
| .737 | .320 0750 | .089 657 | .478 5474 | .787 | .341 7898 | .196 796 | .455 2084 |
| .738 | .320 5093 | .091 748 | .478 0691 | .788 | .342 2241 | .198 994 | .454 7534 |
| .739 | .320 9436 | .093 841 | .477 5913 | .789 | .342 6583 | .201 194 | .454 2989 |
| 0.740 | 0.321 3779 | 2.095 936 | 0.477 1139 | 0.790 | 0.343 0926 | 2.203 396 | 0.453 8448 |
| .741 | .321 8122 | .098 032 | .476 6370 | .791 | .343 5269 | .205 601 | .453 3912 |
| .742 | .322 2465 | .100 132 | .476 1606 | .792 | .343 9612 | .207 808 | .452 9380 |
| .743 | .322 6808 | .102 233 | .475 6847 | .793 | .344 3955 | .210 017 | .452 4853 |
| .744 | .323 1151 | .104 336 | .475 2093 | .794 | .344 8298 | .212 228 | .452 0330 |
| 0.745 | 0.323 5494 | 2.106 441 | 0.474 7343 | 0.795 | 0.345 2641 | 2.214 441 | 0.451 5812 |
| .746 | .323 9837 | .108 549 | .474 2598 | .796 | .345 6984 | .216 657 | .451 1299 |
| .747 | .324 4180 | .110 659 | .473 7858 | .797 | .346 1327 | .218 874 | .450 6790 |
| .748 | .324 8523 | .112 770 | .473 3122 | .798 | .346 5670 | .221 094 | .450 2285 |
| .749 | .325 2866 | .114 884 | .472 8392 | .799 | .347 0013 | .223 316 | .449 7785 |
| 0.750 | 0.325 7209 | 2.117 000 | 0.472 3666 | 0.800 | 0.347 4356 | 2.225 541 | 0.449 3290 |
| $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.800 | 0.347 4356 | 2.225 541 | 0.449 3290 | 0.850 | 0.369 1503 | 2.339 647 | 0.427 4149 |
| .801 | .347 8699 | .227 768 | .448 8799 | .851 | .369 5846 | .341 988 | .426 9877 |
| .802 | .348 3042 | .229 996 | .448 4312 | .852 | .370 0189 | .344 331 | .426 5610 |
| .803 | .348 7385 | .232 228 | .447 9830 | .853 | .370 4532 | .346 676 | .426 1346 |
| .804 | .349 1728 | .234 461 | .447 5352 | .854 | .370 8875 | .349 024 | .425 7087 |
| 0.805 | 0.349 6071 | 2.236 696 | 0.447 0879 | 0.855 | 0.371 3218 | 2.351 374 | 0.425 2832 |
| .806 | .350 0414 | .238 934 | .446 6411 | .856 | .371 7561 | .353 727 | .424 8581 |
| .807 | .350 4756 | .241 174 | .446 1946 | .857 | .372 1904 | .356 082 | .424 4335 |
| .808 | .350 9099 | .243 417 | .445 7487 | .858 | .372 6247 | .358 439 | .424 0093 |
| .809 | .351 3442 | .245 661 | .445 3031 | .859 | .373 0590 | .360 799 | .423 5855 |
| 0.810 | 0.351 7785 | 2.247 908 | 0.444 8581 | 0.860 | 0.373 4933 | 2.363 161 | 0.423 1621 |
| .811 | .352 2128 | .250 157 | .444 4134 | .861 | .373 9275 | .365 525 | .422 7391 |
| .812 | .352 6471 | .252 408 | .443 9692 | .862 | .374 3618 | .367 892 | .422 3166 |
| .813 | .353 0814 | .254 662 | .443 5255 | .863 | .374 7961 | .370 261 | .421 8945 |
| .814 | .353 5157 | .256 918 | .443 0822 | .864 | .375 2304 | .372 632 | .421 4728 |
| 0.815 | 0.353 9500 | 2.259 176 | 0.442 6393 | 0.865 | 0.375 6647 | 2.375 006 | 0.421 0516 |
| .816 | .354 3843 | .261 436 | .442 1969 | .866 | .376 0990 | .377 382 | .420 6307 |
| .817 | .354 8186 | .263 699 | .441 7549 | .867 | .376 5333 | .379 761 | .420 2103 |
| .818 | .355 2529 | .265 903 | .441 3134 | .868 | .376 9676 | .382 142 | .419 7903 |
| .819 | .355 6872 | .268 230 | .440 8723 | .869 | .377 4019 | .384 525 | .419 3707 |
| 0.820 | 0.356 1215 | 2.270 500 | 0.440 4317 | 0.870 | 0.377 8362 | 2.386 911 | 0.418 9515 |
| .821 | .356 5558 | .272 771 | .439 9914 | .871 | .378 2705 | .389 299 | .418 5328 |
| .822 | .356 9901 | .275 045 | .439 5517 | .872 | .378 7048 | .391 689 | .418 1145 |
| .823 | .357 4244 | .277 322 | .439 1123 | .873 | .379 1391 | .394 082 | .417 6966 |
| .824 | .357 8587 | .279 600 | .438 6734 | .874 | .379 5734 | .396 478 | .417 2791 |
| 0.825 | 0.358 2929 | 2.281 881 | 0.438 2350 | 0.875 | 0.380 0077 | 2.398 875 | 0.416 8620 |
| .826 | .358 7272 | .284 164 | .437 7970 | .876 | .380 4420 | .401 275 | .416 4454 |
| .827 | .359 1615 | .286 449 | .437 3594 | .877 | .380 8763 | .403 678 | .416 0291 |
| .828 | .359 5958 | .288 737 | .436 9223 | .878 | .381 3106 | .406 083 | .415 6133 |
| .829 | .360 0301 | .291 027 | .436 4856 | .879 | .381 7448 | .408 490 | .415 1979 |
| 0.830 | 0.360 4644 | 2.293 319 | 0.436 0493 | 0.880 | 0.382 1791 | 2.410 900 | 0.414 7829 |
| .831 | .360 8987 | .295 613 | .435 6135 | .881 | .382 6134 | .413 312 | .414 3683 |
| .832 | .361 3330 | .297 910 | .435 1781 | .882 | .383 0477 | .415 726 | .413 9542 |
| .833 | .361 7673 | .300 209 | .434 7431 | .883 | .383 4820 | .418 143 | .413 5404 |
| .834 | .362 2016 | .302 510 | .434 3086 | .884 | .383 9163 | .420 563 | .413 1271 |
| 0.835 | 0.362 6359 | 2.304 814 | 0.433 8745 | 0.885 | 0.384 3506 | 2.422 984 | 0.412 7142 |
| .836 | .363 0702 | .307 120 | .433 4408 | .886 | .384 7849 | .425 409 | .412 3017 |
| .837 | .363 5045 | .309 428 | .433 0076 | .887 | .385 2192 | .427 835 | .411 8896 |
| .838 | .363 9388 | .311 739 | .432 5748 | .888 | .385 6535 | .430 264 | .411 4779 |
| .839 | .364 3731 | .314 052 | .432 1424 | .889 | .386 0878 | .432 696 | .411 0666 |
| 0.840 | 0.364 8074 | 2.316 367 | 0.431 7105 | 0.890 | 0.386 5221 | 2.435 130 | 0.410 6558 |
| .841 | .365 2417 | .318 685 | .431 2790 | .891 | .386 9564 | .437 566 | .410 2453 |
| .842 | .365 6760 | .321 004 | .430 8480 | .892 | .387 3907 | .440 005 | .409 8353 |
| .843 | .366 1102 | .323 327 | .430 4173 | .893 | .387 8250 | .442 446 | .409 4256 |
| .844 | .366 5445 | .325 651 | .429 9871 | .894 | .388 2593 | .444 890 | .409 0164 |
| 0.845 | 0.366 9788 | 2.327 978 | 0.429 5574 | 0.895 | 0.388 6936 | 2.447 336 | 0.408 6076 |
| .846 | .367 4131 | .330 307 | .429 1280 | .896 | .389 1279 | .449 784 | .408 1992 |
| .847 | .367 8474 | .332 638 | .428 6991 | .897 | .389 5622 | .452 235 | .407 7912 |
| .848 | .368 2817 | .334 972 | .428 2706 | .898 | .389 9964 | .454 689 | .407 3836 |
| .849 | .368 7160 | .337 308 | .427 8426 | .899 | .390 4307 | .457 145 | .406 9764 |
| 0.850 | 0.369 1503 | 2.339 647 | 0.427 4149 | 0.900 | 0.390 8650 | 2.459 603 | 0.406 5697 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 0.900 | 0.390 8650 | 2.459 603 | 0.406 5697 | 0.950 | 0.412 5798 | 2.585 710 | 0.386 7410 |
| .901 | .391 2993 | .462 064 | .406 1633 | .951 | .413 0141 | .588 297 | .386 3545 |
| .902 | .391 7336 | .464 527 | .405 7573 | .952 | .413 4483 | .590 886 | .385 9683 |
| .903 | .392 1679 | .466 993 | .405 3518 | .953 | .413 8826 | .593 478 | .385 5825 |
| .904 | .392 6022 | .469 461 | .404 9466 | .954 | .414 3169 | .596 073 | .385 1971 |
| 0.905 | 0.393 0365 | 2.471 932 | 0.404 5419 | 0.955 | 0.414 7512 | 2.598 671 | 0.384 8121 |
| .906 | .393 4708 | .474 405 | .404 1375 | .956 | .415 1855 | .601 271 | .384 4275 |
| .907 | .393 9051 | .476 881 | .403 7336 | .957 | .415 6198 | .603 873 | .384 0433 |
| .908 | .394 3394 | .479 359 | .403 3301 | .958 | .416 0541 | .606 478 | .383 6594 |
| .909 | .394 7737 | .481 839 | .402 9269 | .959 | .416 4884 | .609 086 | .383 2760 |
| 0.910 | 0.395 2080 | 2.484 323 | 0.402 5242 | 0.960 | 0.416 9227 | 2.611 696 | 0.382 8929 |
| .911 | .395 6423 | .486 808 | .402 1219 | .961 | .417 3570 | .614 309 | .382 5102 |
| .912 | .396 0766 | .489 296 | .401 7200 | .962 | .417 7913 | .616 925 | .382 1279 |
| .913 | .396 5109 | .491 787 | .401 3185 | .963 | .418 2256 | .619 543 | .381 7459 |
| .914 | .396 9452 | .494 280 | .400 9173 | .964 | .418 6599 | .622 164 | .381 3644 |
| 0.915 | 0.397 3795 | 2.496 775 | 0.400 5166 | 0.965 | 0.419 0942 | 2.624 788 | 0.380 9832 |
| .916 | .397 8137 | .499 273 | .400 1163 | .966 | .419 5285 | .627 414 | .380 6024 |
| .917 | .398 2480 | .501 774 | .399 7164 | .967 | .419 9628 | .630 042 | .380 2220 |
| .918 | .398 6823 | .504 277 | .399 3169 | .968 | .420 3971 | .632 674 | .379 8420 |
| .919 | .399 1166 | .506 782 | .398 9178 | .969 | .420 8314 | .635 308 | .379 4623 |
| 0.920 | 0.399 5509 | 2.509 290 | 0.398 5190 | 0.970 | 0.421 2656 | 2.637 944 | 0.379 0830 |
| .921 | .399 9852 | .511 801 | .398 1207 | .971 | .421 6999 | .640 584 | .378 7041 |
| .922 | .400 4195 | .514 314 | .397 7228 | .972 | .422 1342 | .643 226 | .378 3256 |
| .923 | .400 8538 | .516 830 | .397 3253 | .973 | .422 5685 | .645 870 | .377 9475 |
| .924 | .401 2881 | .519 348 | .396 9281 | .974 | .423 0028 | .648 517 | .377 5697 |
| 0.925 | 0.401 7224 | 2.521 868 | 0.396 5314 | 0.975 | 0.423 4371 | 2.651 167 | 0.377 1924 |
| .926 | .402 1567 | .524 391 | .396 1351 | .976 | .423 8714 | .653 820 | .376 8153 |
| .927 | .402 5910 | .526 917 | .395 7391 | .977 | .424 3057 | .656 475 | .376 4387 |
| .928 | .403 0253 | .529 445 | .395 3436 | .978 | .424 7400 | .659 133 | .376 0625 |
| .929 | .403 4596 | .531 976 | .394 9485 | .979 | .425 1743 | .661 793 | .375 6866 |
| 0.930 | 0.403 8939 | 2.534 509 | 0.394 5537 | 0.980 | 0.425 6086 | 2.664 456 | 0.375 3111 |
| .931 | .404 3282 | .537 045 | .394 1594 | .981 | .426 0429 | .667 122 | .374 9360 |
| .932 | .404 7625 | .539 583 | .393 7654 | .982 | .426 4772 | .669 790 | .374 5612 |
| .933 | .405 1968 | .542 124 | .393 3718 | .983 | .426 9115 | .672 462 | .374 1869 |
| .934 | .405 6310 | .544 668 | .392 9786 | .984 | .427 3458 | .675 135 | .373 8129 |
| 0.935 | 0.406 0653 | 2.547 213 | 0.392 5859 | 0.985 | 0.427 7801 | 2.677 812 | 0.373 4392 |
| .936 | .406 4996 | .549 762 | .392 1935 | .986 | .428 2144 | .680 491 | .373 0660 |
| .937 | .406 9339 | .552 313 | .391 8015 | .987 | .428 6487 | .683 173 | .372 6931 |
| .938 | .407 3682 | .554 867 | .391 4099 | .988 | .429 0829 | .685 857 | .372 3206 |
| .939 | .407 8025 | .557 423 | .391 0187 | .989 | .429 5172 | .688 545 | .371 9485 |
| 0.940 | 0.408 2368 | 2.559 981 | 0.390 6278 | 0.990 | 0.429 9515 | 2.691 234 | 0.371 5767 |
| .941 | .408 6711 | .562 543 | .390 2374 | .991 | .430 3858 | .693 927 | .371 2053 |
| .942 | .409 1054 | .565 107 | .389 8474 | .992 | .430 8201 | .696 622 | .370 8343 |
| .943 | .409 5397 | .567 673 | .389 4577 | .993 | .431 2544 | .699 320 | .370 4636 |
| .944 | .409 9740 | .570 242 | .389 0684 | .994 | .431 6887 | .702 021 | .370 0934 |
| 0.945 | 0.410 4083 | 2.572 813 | 0.388 6796 | 0.995 | 0.432 1230 | 2.704 724 | 0.369 7234 |
| .946 | .410 8426 | .575 387 | .388 2911 | .996 | .432 5573 | .707 430 | .369 3539 |
| .947 | .411 2769 | .577 904 | .387 9030 | .997 | .432 9916 | .710 139 | .368 9847 |
| .948 | .411 7112 | .580 543 | .387 5153 | .998 | .433 4259 | .712 851 | .368 6159 |
| .949 | .412 1455 | .583 125 | .387 1280 | .999 | .433 8602 | .715 565 | .368 2475 |
| 0.950 | 0.412 5798 | 2.585 710 | 0.386 7410 | 1.000 | 0.434 2945 | 2.718 282 | 0.367 8794 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| I.000 | 0.434 2945 | 2.718 282 | 0.367 8794 | I.050 | 0.456 0092 | 2.857 651 | 0.349 9377 |
| .001 | .434 7288 | .721 001 | .367 5117 | .051 | .456 4435 | .860 510 | .349 5880 |
| .002 | .435 1631 | .723 724 | .367 1444 | .052 | .456 8778 | .863 372 | .349 2386 |
| .003 | .435 5974 | .726 449 | .366 7775 | .053 | .457 3121 | .866 237 | .348 8895 |
| .004 | .436 0317 | .729 177 | .366 4109 | .054 | .457 7464 | .869 105 | .348 5408 |
| I.005 | 0.436 4660 | 2.731 907 | 0.366 0446 | I.055 | 0.458 1807 | 2.871 975 | 0.348 1924 |
| .006 | .436 9002 | .734 641 | .365 6788 | .056 | .458 6150 | .874 849 | .347 8444 |
| .007 | .437 3345 | .737 377 | .365 3133 | .057 | .459 0493 | .877 725 | .347 4967 |
| .008 | .437 7688 | .740 115 | .364 9481 | .058 | .459 4836 | .880 604 | .347 1494 |
| .009 | .438 2031 | .742 857 | .364 5834 | .059 | .459 9179 | .883 486 | .346 8024 |
| I.010 | 0.438 6374 | 2.745 601 | 0.364 2190 | I.060 | 0.460 3522 | 2.886 371 | 0.346 4558 |
| .011 | .439 0717 | .748 348 | .363 8549 | .061 | .460 7864 | .889 259 | .346 1095 |
| .012 | .439 5060 | .751 098 | .363 4913 | .062 | .461 2207 | .892 150 | .345 7636 |
| .013 | .439 9403 | .753 850 | .363 1280 | .063 | .461 6550 | .895 043 | .345 4180 |
| .014 | .440 3746 | .756 605 | .362 7650 | .064 | .462 0893 | .897 940 | .345 0728 |
| I.015 | 0.440 8089 | 2.759 363 | 0.362 4024 | I.065 | 0.462 5236 | 2.900 839 | 0.344 7279 |
| .016 | .441 2432 | .762 124 | .362 0402 | .066 | .462 9579 | .903 741 | .344 3833 |
| .017 | .441 6775 | .764 888 | .361 6783 | .067 | .463 3922 | .906 646 | .344 0391 |
| .018 | .442 1118 | .767 654 | .361 3169 | .068 | .463 8265 | .909 555 | .343 6952 |
| .019 | .442 5461 | .770 423 | .360 9557 | .069 | .464 2608 | .912 466 | .343 3517 |
| I.020 | 0.442 9804 | 2.773 195 | 0.360 5949 | I.070 | 0.464 6951 | 2.915 379 | 0.343 0085 |
| .021 | .443 4147 | .775 969 | .360 2345 | .071 | .465 1294 | .918 296 | .342 6657 |
| .022 | .443 8490 | .778 747 | .359 8745 | .072 | .465 5637 | .921 216 | .342 3232 |
| .023 | .444 2833 | .781 527 | .359 5148 | .073 | .465 9980 | .924 139 | .341 9810 |
| .024 | .444 7175 | .784 310 | .359 1554 | .074 | .466 4323 | .927 064 | .341 6392 |
| I.025 | 0.445 1518 | 2.787 095 | 0.358 7965 | I.075 | 0.466 8666 | 2.929 993 | 0.341 2978 |
| .026 | .445 5861 | .789 884 | .358 4378 | .076 | .467 3009 | .932 924 | .340 9566 |
| .027 | .446 0204 | .792 675 | .358 0796 | .077 | .467 7352 | .935 859 | .340 6158 |
| .028 | .446 4547 | .795 469 | .357 7217 | .078 | .468 1695 | .938 796 | .340 2754 |
| .029 | .446 8890 | .798 266 | .357 3641 | .079 | .468 6037 | .941 736 | .339 9353 |
| I.030 | 0.447 3233 | 2.801 066 | 0.357 0070 | I.080 | 0.469 0380 | 2.944 680 | 0.339 5955 |
| .031 | .447 7576 | .803 868 | .356 6501 | .081 | .469 4723 | .947 626 | .339 2561 |
| .032 | .448 1919 | .806 674 | .356 2937 | .082 | .469 9066 | .950 575 | .338 9170 |
| .033 | .448 6262 | .809 482 | .355 9375 | .083 | .470 3409 | .953 527 | .338 5783 |
| .034 | .449 0605 | .812 293 | .355 5818 | .084 | .470 7752 | .956 482 | .338 2399 |
| I.035 | 0.449 4948 | 2.815 106 | 0.355 2264 | I.085 | 0.471 2095 | 2.959 440 | 0.337 9018 |
| .036 | .449 9291 | .817 923 | .354 8713 | .086 | .471 6438 | .962 401 | .337 5641 |
| .037 | .450 3634 | .820 742 | .354 5166 | .087 | .472 0781 | .965 365 | .337 2267 |
| .038 | .450 7977 | .823 564 | .354 1623 | .088 | .472 5124 | .968 331 | .336 8896 |
| .039 | .451 2320 | .826 389 | .353 8083 | .089 | .472 9467 | .971 301 | .336 5529 |
| I.040 | 0.451 6663 | 2.829 217 | 0.353 4547 | I.090 | 0.473 3810 | 2.974 274 | 0.336 2165 |
| .041 | .452 1006 | .832 048 | .353 1014 | .091 | .473 8153 | .977 250 | .335 8804 |
| .042 | .452 5349 | .834 881 | .352 7485 | .092 | .474 2496 | .980 229 | .335 5447 |
| .043 | .452 9691 | .837 717 | .352 3959 | .093 | .474 6839 | .983 210 | .335 2094 |
| .044 | .453 4034 | .840 557 | .352 0437 | .094 | .475 1182 | .986 195 | .334 8743 |
| I.045 | 0.453 8377 | 2.843 399 | 0.351 6918 | I.095 | 0.475 5525 | 2.989 183 | 0.334 5396 |
| .046 | .454 2720 | .846 243 | .351 3403 | .096 | .475 9868 | .992 173 | .334 2052 |
| .047 | .454 7063 | .849 091 | .350 9891 | .097 | .476 4210 | .995 167 | .333 8712 |
| .048 | .455 1406 | .851 942 | .350 6383 | .098 | .476 8553 | .998 164 | .333 5375 |
| .049 | .455 5749 | .854 795 | .350 2879 | .099 | .477 2896 | 3.001 163 | .333 2041 |
| I.050 | 0.456 0092 | 2.857 651 | 0.349 9377 | I.100 | 0.477 7239 | 3.004 166 | 0.332 8711 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| I. 100 | 0.477 7239 | 3.004 166 | 0.332 8711 | I. 150 | 0.499 4387 | 3.158 193 | 0.316 6368 |
| .101 | .478 1582 | .007 172 | .332 5384 | .151 | .499 8729 | .161 353 | .316 3203 |
| .102 | .478 5925 | .010 180 | .332 2060 | .152 | .500 3072 | .164 516 | .316 0041 |
| .103 | .479 0268 | .013 192 | .331 8740 | .153 | .500 7415 | .167 682 | .315 6883 |
| .104 | .479 4611 | .016 207 | .331 5423 | .154 | .501 1758 | .170 851 | .315 3728 |
| I. 105 | 0.479 8954 | 3.019 224 | 0.331 2109 | I. 155 | 0.501 6101 | 3.174 023 | 0.315 0575 |
| .106 | .480 3297 | .022 245 | .330 8798 | .156 | .502 0444 | .177 199 | .314 7426 |
| .107 | .480 7640 | .025 269 | .330 5491 | .157 | .502 4787 | .180 378 | .314 4281 |
| .108 | .481 1983 | .028 296 | .330 2187 | .158 | .502 9130 | .183 560 | .314 1138 |
| .109 | .481 6326 | .031 326 | .329 8887 | .159 | .503 3473 | .186 745 | .313 7998 |
| I. 110 | 0.482 0669 | 3.034 358 | 0.329 5590 | I. 160 | 0.503 7816 | 3.189 933 | 0.313 4862 |
| .111 | .482 5012 | .037 394 | .329 2296 | .161 | .504 2159 | .193 125 | .313 1729 |
| .112 | .482 9355 | .040 433 | .328 9005 | .162 | .504 6502 | .196 320 | .312 8598 |
| .113 | .483 3698 | .043 475 | .328 5718 | .163 | .505 0845 | .199 517 | .312 5471 |
| .114 | .483 8041 | .046 520 | .328 2434 | .164 | .505 5188 | .202 719 | .312 2347 |
| I. 115 | 0.484 2383 | 3.049 568 | 0.327 9153 | I. 165 | 0.505 9531 | 3.205 923 | 0.311 9227 |
| .116 | .484 6726 | .052 619 | .327 5875 | .166 | .506 3874 | .209 130 | .311 6109 |
| .117 | .485 1069 | .055 673 | .327 2601 | .167 | .506 8217 | .212 341 | .311 2994 |
| .118 | .485 5412 | .058 731 | .326 9330 | .168 | .507 2560 | .215 555 | .310 9883 |
| .119 | .485 9755 | .061 791 | .326 6062 | .169 | .507 6902 | .218 772 | .310 6775 |
| I. 120 | 0.486 4098 | 3.064 854 | 0.326 2798 | I. 170 | 0.508 1245 | 3.221 993 | 0.310 3669 |
| .121 | .486 8441 | .067 921 | .325 9537 | .171 | .508 5588 | .225 216 | .310 0567 |
| .122 | .487 2784 | .070 990 | .325 6279 | .172 | .508 9931 | .228 443 | .309 7468 |
| .123 | .487 7127 | .074 063 | .325 3024 | .173 | .509 4274 | .231 673 | .309 4372 |
| .124 | .488 1470 | .077 138 | .324 9773 | .174 | .509 8617 | .234 906 | .309 1280 |
| I. 125 | 0.488 5813 | 3.080 217 | 0.324 6525 | I. 175 | 0.510 2960 | 3.238 143 | 0.308 8190 |
| .126 | .489 0156 | .083 299 | .324 3280 | .176 | .510 7303 | .241 383 | .308 5103 |
| .127 | .489 4499 | .086 383 | .324 0038 | .177 | .511 1646 | .244 626 | .308 2020 |
| .128 | .489 8842 | .089 471 | .323 6800 | .178 | .511 5989 | .247 872 | .307 8939 |
| .129 | .490 3185 | .092 562 | .323 3565 | .179 | .512 0332 | .251 121 | .307 5862 |
| I. 130 | 0.490 7528 | 3.095 657 | 0.323 0333 | I. 180 | 0.512 4675 | 3.254 374 | 0.307 2787 |
| .131 | .491 1871 | .098 754 | .322 7104 | .181 | .512 9018 | .257 630 | .306 9716 |
| .132 | .491 6214 | .101 854 | .322 3878 | .182 | .513 3361 | .260 889 | .306 6648 |
| .133 | .492 0556 | .104 957 | .322 0656 | .183 | .513 7704 | .264 152 | .306 3583 |
| .134 | .492 4899 | .108 064 | .321 7437 | .184 | .514 2047 | .267 418 | .306 0521 |
| I. 135 | 0.492 9242 | 3.111 174 | 0.321 4221 | I. 185 | 0.514 6390 | 3.270 687 | 0.305 7462 |
| .136 | .493 3585 | .114 286 | .321 1009 | .186 | .515 0733 | .273 959 | .305 4406 |
| .137 | .493 7928 | .117 402 | .320 7799 | .187 | .515 5075 | .277 235 | .305 1353 |
| .138 | .494 2271 | .120 521 | .320 4593 | .188 | .515 9418 | .280 514 | .304 8303 |
| .139 | .494 6614 | .123 643 | .320 1390 | .189 | .516 3761 | .283 796 | .304 5256 |
| I. 140 | 0.495 0957 | 3.126 768 | 0.319 8190 | I. 190 | 0.516 8104 | 3.287 081 | 0.304 2213 |
| .141 | .495 5300 | .129 897 | .319 4994 | .191 | .517 2447 | .290 370 | .303 9172 |
| .142 | .495 9643 | .133 028 | .319 1800 | .192 | .517 6790 | .293 662 | .303 6134 |
| .143 | .496 3986 | .136 163 | .318 8610 | .193 | .518 1133 | .296 957 | .303 3100 |
| .144 | .496 8329 | .139 300 | .318 5423 | .194 | .518 5476 | .300 256 | .303 0068 |
| I. 145 | 0.497 2672 | 3.142 441 | 0.318 2239 | I. 195 | 0.518 9819 | 3.303 558 | 0.302 7040 |
| .146 | .497 7015 | .145 585 | .317 9059 | .196 | .519 4162 | .306 863 | .302 4014 |
| .147 | .498 1358 | .148 733 | .317 5881 | .197 | .519 8505 | .310 172 | .302 0992 |
| .148 | .498 5701 | .151 883 | .317 2707 | .198 | .520 2848 | .313 483 | .301 7972 |
| .149 | .499 0044 | .155 036 | .316 9536 | .199 | .520 7191 | .316 798 | .301 4956 |
| I. 150 | 0.499 4387 | 3.158 193 | 0.316 6368 | I. 200 | 0.521 1534 | 3.320 117 | 0.301 1942 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| I. 200 | 0.521 1534 | 3.320 117 | 0.301 1942 | I. 250 | 0.542 8681 | 3.490 343 | 0.286 5048 |
| .201 | .521 5877 | .323 439 | .300 8932 | .251 | .543 3024 | .493 835 | .286 2184 |
| .202 | .522 0220 | .326 764 | .300 5924 | .252 | .543 7367 | .497 331 | .285 9324 |
| .203 | .522 4563 | .330 092 | .300 2920 | .253 | .544 1710 | .500 830 | .285 6466 |
| .204 | .522 8906 | .333 424 | .299 9918 | .254 | .544 6053 | .504 332 | .285 3611 |
| I. 205 | 0.523 3249 | 3.336 759 | 0.299 6920 | I. 255 | 0.545 0396 | 3.507 838 | 0.285 0758 |
| .206 | .523 7591 | .340 098 | .299 3925 | .256 | .545 4739 | .511 348 | .284 7909 |
| .207 | .524 1934 | .343 439 | .299 0932 | .257 | .545 9082 | .514 861 | .284 5063 |
| .208 | .524 6277 | .346 784 | .298 7943 | .258 | .546 3425 | .518 378 | .284 2219 |
| .209 | .525 0620 | .350 133 | .298 4956 | .259 | .546 7768 | .521 898 | .283 9378 |
| I. 210 | 0.525 4963 | 3.353 485 | 0.298 1973 | I. 260 | 0.547 2110 | 3.525 421 | 0.283 6540 |
| .211 | .525 9306 | .356 840 | .297 8992 | .261 | .547 6453 | .528 949 | .283 3705 |
| .212 | .526 3649 | .360 198 | .297 6015 | .262 | .548 0796 | .532 479 | .283 0873 |
| .213 | .526 7992 | .363 560 | .297 3040 | .263 | .548 5139 | .536 014 | .282 8043 |
| .214 | .527 2335 | .366 925 | .297 0069 | .264 | .548 9482 | .539 551 | .282 5217 |
| I. 215 | 0.527 6678 | 3.370 294 | 0.296 7100 | I. 265 | 0.549 3825 | 3.543 093 | 0.282 2393 |
| .216 | .528 1021 | .373 666 | .296 4135 | .266 | .549 8168 | .546 638 | .281 9572 |
| .217 | .528 5364 | .377 041 | .296 1172 | .267 | .550 2511 | .550 186 | .281 6754 |
| .218 | .528 9707 | .380 420 | .295 8212 | .268 | .550 6854 | .553 738 | .281 3938 |
| .219 | .529 4050 | .383 802 | .295 5255 | .269 | .551 1197 | .557 293 | .281 1126 |
| I. 220 | 0.529 8393 | 3.387 188 | 0.295 2302 | I. 270 | 0.551 5540 | 3.560 853 | 0.280 8316 |
| .221 | .530 2736 | .390 577 | .294 9351 | .271 | .551 9883 | .564 415 | .280 5509 |
| .222 | .530 7079 | .393 969 | .294 6403 | .272 | .552 4226 | .567 981 | .280 2705 |
| .223 | .531 1422 | .397 365 | .294 3458 | .273 | .552 8569 | .571 551 | .279 9904 |
| .224 | .531 5764 | .400 764 | .294 0516 | .274 | .553 2912 | .575 124 | .279 7105 |
| I. 225 | 0.532 0107 | 3.404 166 | 0.293 7577 | I. 275 | 0.553 7255 | 3.578 701 | 0.279 4310 |
| .226 | .532 4450 | .407 572 | .293 4641 | .276 | .554 1598 | .582 282 | .279 1517 |
| .227 | .532 8793 | .410 981 | .293 1708 | .277 | .554 5941 | .585 866 | .278 8727 |
| .228 | .533 3136 | .414 394 | .292 8777 | .278 | .555 0283 | .589 454 | .278 5939 |
| .229 | .533 7479 | .417 810 | .292 5850 | .279 | .555 4626 | .593 045 | .278 3155 |
| I. 230 | 0.534 1822 | 3.421 230 | 0.292 2926 | I. 280 | 0.555 8969 | 3.596 640 | 0.278 0373 |
| .231 | .534 6165 | .424 652 | .292 0004 | .281 | .556 3312 | .600 238 | .277 7594 |
| .232 | .535 0508 | .428 079 | .291 7086 | .282 | .556 7655 | .603 840 | .277 4818 |
| .233 | .535 4851 | .431 509 | .291 4170 | .283 | .557 1998 | .607 446 | .277 2044 |
| .234 | .535 9194 | .434 942 | .291 1257 | .284 | .557 6341 | .611 055 | .276 9274 |
| I. 235 | 0.536 3537 | 3.438 379 | 0.290 8348 | I. 285 | 0.558 0684 | 3.614 668 | 0.276 6506 |
| .236 | .536 7880 | .441 819 | .290 5441 | .286 | .558 5027 | .618 284 | .276 3741 |
| .237 | .537 2223 | .445 262 | .290 2537 | .287 | .558 9370 | .621 905 | .276 0978 |
| .238 | .537 6566 | .448 709 | .289 9636 | .288 | .559 3713 | .625 528 | .275 8219 |
| .239 | .538 0909 | .452 160 | .289 6737 | .289 | .559 8056 | .629 156 | .275 5462 |
| I. 240 | 0.538 5252 | 3.455 613 | 0.289 3842 | I. 290 | 0.560 2399 | 3.632 787 | 0.275 2708 |
| .241 | .538 9595 | .455 071 | .289 0950 | .291 | .560 6742 | .636 421 | .274 9956 |
| .242 | .539 3937 | .462 532 | .288 8060 | .292 | .561 1085 | .640 059 | .274 7208 |
| .243 | .539 8280 | .465 996 | .288 5174 | .293 | .561 5428 | .643 701 | .274 4462 |
| .244 | .540 2623 | .469 464 | .288 2290 | .294 | .561 9771 | .647 347 | .274 1719 |
| I. 245 | 0.540 6966 | 3.472 935 | 0.287 9409 | I. 295 | 0.562 4114 | 3.650 996 | 0.273 8979 |
| .246 | .541 1309 | .476 409 | .287 6531 | .296 | .562 8456 | .654 649 | .273 6241 |
| .247 | .541 5652 | .479 888 | .287 3656 | .297 | .563 2799 | .658 305 | .273 3506 |
| .248 | .541 9995 | .483 369 | .287 0784 | .298 | .563 7142 | .661 965 | .273 0774 |
| .249 | .542 4338 | .486 854 | .286 7914 | .299 | .564 1485 | .665 629 | .272 8045 |
| I. 250 | 0.542 8681 | 3.490 343 | 0.286 5048 | I. 300 | 0.564 5828 | 3.669 297 | 0.272 5318 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| I. 300 | 0.564 5828 | 3.669 297 | 0.272 5318 | I. 350 | 0.586 2976 | 3.857 426 | 0.259 2403 |
| .301 | .565 0171 | .672 968 | .272 2594 | .351 | .586 7318 | .861 285 | .258 9811 |
| .302 | .565 4514 | .676 643 | .271 9873 | .352 | .587 1661 | .865 148 | .258 7223 |
| .303 | .565 8857 | .680 321 | .271 7154 | .353 | .587 6004 | .869 015 | .258 4637 |
| .304 | .566 3200 | .684 003 | .271 4438 | .354 | .588 0347 | .872 886 | .258 2054 |
| I. 305 | 0.566 7543 | 3.687 689 | 0.271 1725 | I. 355 | 0.588 4690 | 3.876 761 | 0.257 9473 |
| .306 | .567 1886 | .691 379 | .270 9015 | .356 | .588 9033 | .880 640 | .257 6895 |
| .307 | .567 6229 | .695 072 | .270 6307 | .357 | .589 3376 | .884 522 | .257 4319 |
| .308 | .568 0572 | .698 769 | .270 3602 | .358 | .589 7719 | .888 409 | .257 1746 |
| .309 | .568 4915 | .702 469 | .270 0900 | .359 | .590 2062 | .892 299 | .256 9176 |
| I. 310 | 0.568 9258 | 3.706 174 | 0.269 8201 | I. 360 | 0.590 6405 | 3.896 193 | 0.256 6608 |
| .311 | .569 3601 | .709 882 | .269 5504 | .361 | .591 0748 | .900 091 | .256 4042 |
| .312 | .569 7944 | .713 593 | .269 2810 | .362 | .591 5091 | .903 993 | .256 1480 |
| .313 | .570 2287 | .717 309 | .269 0118 | .363 | .591 9434 | .907 899 | .255 8919 |
| .314 | .570 6629 | .721 028 | .268 7429 | .364 | .592 3777 | .911 809 | .255 6362 |
| I. 315 | 0.571 0972 | 3.724 751 | 0.268 4743 | I. 365 | 0.592 8120 | 3.915 723 | 0.255 3807 |
| .316 | .571 5315 | .728 478 | .268 2060 | .366 | .593 2463 | .919 641 | .255 1254 |
| .317 | .571 9658 | .732 208 | .267 9379 | .367 | .593 6806 | .923 562 | .254 8704 |
| .318 | .572 4001 | .735 942 | .267 6701 | .368 | .594 1149 | .927 488 | .254 6157 |
| .319 | .572 8344 | .739 680 | .267 4026 | .369 | .594 5491 | .931 417 | .254 3612 |
| I. 320 | 0.573 2687 | 3.743 421 | 0.267 1353 | I. 370 | 0.594 9834 | 3.935 351 | 0.254 1070 |
| .321 | .573 7030 | .747 167 | .266 8683 | .371 | .595 4177 | .939 288 | .253 8530 |
| .322 | .574 1373 | .750 916 | .266 6016 | .372 | .595 8520 | .943 229 | .253 5993 |
| .323 | .574 5716 | .754 669 | .266 3351 | .373 | .596 2863 | .947 174 | .253 3458 |
| .324 | .575 0059 | .758 425 | .266 0689 | .374 | .596 7206 | .951 124 | .253 0926 |
| I. 325 | 0.575 4402 | 3.762 185 | 0.265 8030 | I. 375 | 0.597 1549 | 3.955 077 | 0.252 8396 |
| .326 | .575 8745 | .765 949 | .265 5373 | .376 | .597 5892 | .959 034 | .252 5869 |
| .327 | .576 3088 | .769 717 | .265 2719 | .377 | .598 0235 | .962 995 | .252 3344 |
| .328 | .576 7431 | .773 489 | .265 0067 | .378 | .598 4578 | .966 960 | .252 0822 |
| .329 | .577 1774 | .777 264 | .264 7419 | .379 | .598 8921 | .970 929 | .251 8303 |
| I. 330 | 0.577 6117 | 3.781 043 | 0.264 4773 | I. 380 | 0.599 3264 | 3.974 902 | 0.251 5786 |
| .331 | .578 0460 | .784 826 | .264 2129 | .381 | .599 7607 | .978 879 | .251 3271 |
| .332 | .578 4802 | .788 613 | .263 9488 | .382 | .600 1950 | .982 859 | .251 0759 |
| .333 | .578 9145 | .792 404 | .263 6850 | .383 | .600 6293 | .986 844 | .250 8249 |
| .334 | .579 3488 | .796 198 | .263 4215 | .384 | .601 0636 | .990 833 | .250 5742 |
| I. 335 | 0.579 7831 | 3.799 996 | 0.263 1582 | I. 385 | 0.601 4979 | 3.994 826 | 0.250 3238 |
| .336 | .580 2174 | .803 798 | .262 8951 | .386 | .601 9322 | .998 823 | .250 0736 |
| .337 | .580 6517 | .807 604 | .262 6324 | .387 | .602 3664 | 4.002 824 | .249 8237 |
| .338 | .581 0860 | .811 413 | .262 3699 | .388 | .602 8007 | .006 828 | .249 5740 |
| .339 | .581 5203 | .815 226 | .262 1076 | .389 | .603 2350 | .010 837 | .249 3245 |
| I. 340 | 0.581 9546 | 3.819 044 | 0.261 8457 | I. 390 | 0.603 6693 | 4.014 850 | 0.249 0753 |
| .341 | .582 3889 | .822 864 | .261 5840 | .391 | .604 1036 | .018 867 | .248 8264 |
| .342 | .582 8232 | .826 689 | .261 3225 | .392 | .604 5379 | .022 888 | .248 5777 |
| .343 | .583 2575 | .830 518 | .261 0613 | .393 | .604 9722 | .026 913 | .248 3292 |
| .344 | .583 6918 | .834 350 | .260 8004 | .394 | .605 4065 | .030 942 | .248 0810 |
| I. 345 | 0.584 1261 | 3.838 187 | 0.260 5397 | I. 395 | 0.605 8408 | 4.034 975 | 0.247 8330 |
| .346 | .584 5604 | .842 027 | .260 2793 | .396 | .606 2751 | .039 012 | .247 5853 |
| .347 | .584 9947 | .845 871 | .260 0191 | .397 | .606 7094 | .043 053 | .247 3379 |
| .348 | .585 4290 | .849 718 | .259 7593 | .398 | .607 1437 | .047 098 | .247 0907 |
| .349 | .585 8633 | .853 570 | .259 4996 | .399 | .607 5780 | .051 147 | .246 8437 |
| I. 350 | 0.586 2976 | 3.857 426 | 0.259 2403 | I. 400 | 0.608 0123 | 4.055 200 | 0.246 5970 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|------------------|------------------|-----------|------------|------------------|------------------|-----------|------------|
| 1.400 | 0.608 0123 | 4.055 200 | 0.246 5970 | 1.450 | 0.629 7270 | 4.263 115 | 0.234 5703 |
| .401 | .608 4466 | .059 257 | .246 3505 | .451 | .630 1613 | .267 380 | .234 3358 |
| .402 | .608 8809 | .063 318 | .246 1043 | .452 | .630 5956 | .271 649 | .234 1016 |
| .403 | .609 3152 | .067 384 | .245 8583 | .453 | .631 0299 | .275 923 | .233 8676 |
| .404 | .609 7495 | .071 453 | .245 6125 | .454 | .631 4642 | .280 201 | .233 6339 |
| 1.405 | 0.610 1837 | 4.075 527 | 0.245 3671 | 1.455 | 0.631 8985 | 4.284 483 | 0.233 4004 |
| .406 | .610 6180 | .079 604 | .245 1218 | .456 | .632 3328 | .288 770 | .233 1671 |
| .407 | .611 0523 | .083 686 | .244 8768 | .457 | .632 7671 | .293 061 | .232 9340 |
| .408 | .611 4866 | .087 772 | .244 6321 | .458 | .633 2014 | .297 356 | .232 7012 |
| .409 | .611 9209 | .091 861 | .244 3875 | .459 | .633 6356 | .301 656 | .232 4686 |
| 1.410 | 0.612 3552 | 4.095 955 | 0.244 1433 | 1.460 | 0.634 0699 | 4.305 960 | 0.232 2363 |
| .411 | .612 7895 | .100 053 | .243 8993 | .461 | .634 5042 | .310 268 | .232 0042 |
| .412 | .613 2238 | .104 156 | .243 6555 | .462 | .634 9385 | .314 580 | .231 7723 |
| .413 | .613 6581 | .108 262 | .243 4120 | .463 | .635 3728 | .318 897 | .231 5406 |
| .414 | .614 0924 | .112 372 | .243 1687 | .464 | .635 8071 | .323 218 | .231 3092 |
| 1.415 | 0.614 5267 | 4.116 486 | 0.242 9256 | 1.465 | 0.636 2414 | 4.327 543 | 0.231 0780 |
| .416 | .614 9610 | .120 605 | .242 6828 | .466 | .636 6757 | .331 873 | .230 8470 |
| .417 | .615 3953 | .124 728 | .242 4402 | .467 | .637 1100 | .336 207 | .230 6163 |
| .418 | .615 8296 | .128 854 | .242 1979 | .468 | .637 5443 | .340 545 | .230 3858 |
| .419 | .616 2639 | .132 985 | .241 9559 | .469 | .637 9786 | .344 888 | .230 1555 |
| 1.420 | 0.616 6982 | 4.137 120 | 0.241 7140 | 1.470 | 0.638 4129 | 4.349 235 | 0.229 9255 |
| .421 | .617 1325 | .141 260 | .241 4724 | .471 | .638 8472 | .353 587 | .229 6957 |
| .422 | .617 5668 | .145 403 | .241 2311 | .472 | .639 2815 | .357 942 | .229 4661 |
| .423 | .618 0010 | .149 550 | .240 9900 | .473 | .639 7158 | .362 302 | .229 2367 |
| .424 | .618 4353 | .153 702 | .240 7491 | .474 | .640 1501 | .366 667 | .229 0076 |
| 1.425 | 0.618 8696 | 4.157 858 | 0.240 5085 | 1.475 | 0.640 5844 | 4.371 036 | 0.228 7787 |
| .426 | .619 3039 | .162 018 | .240 2681 | .476 | .641 0187 | .375 409 | .228 5501 |
| .427 | .619 7382 | .166 182 | .240 0279 | .477 | .641 4529 | .379 787 | .228 3216 |
| .428 | .620 1725 | .170 350 | .239 7880 | .478 | .641 8872 | .384 169 | .228 0934 |
| .429 | .620 6068 | .174 523 | .239 5484 | .479 | .642 3215 | .388 555 | .227 8654 |
| 1.430 | 0.621 0411 | 0.178 699 | 0.239 3089 | 1.480 | 0.642 7558 | 4.392 946 | 0.227 6377 |
| .431 | .621 4754 | .182 880 | .239 0697 | .481 | .643 1901 | .397 341 | .227 4102 |
| .432 | .621 9097 | .187 065 | .238 8308 | .482 | .643 6244 | .401 740 | .227 1820 |
| .433 | .622 3440 | .191 254 | .238 5921 | .483 | .644 0587 | .406 144 | .226 9558 |
| .434 | .622 7783 | .195 447 | .238 3536 | .484 | .644 4930 | .410 553 | .226 7290 |
| 1.435 | 0.623 2126 | 4.199 645 | 0.238 1154 | 1.485 | 0.644 9273 | 4.414 965 | 0.226 5023 |
| .436 | .623 6469 | .203 847 | .237 8774 | .486 | .645 3616 | .419 383 | .226 2760 |
| .437 | .624 0812 | .208 053 | .237 6396 | .487 | .645 7959 | .423 804 | .226 0498 |
| .438 | .624 5155 | .212 263 | .237 4021 | .488 | .646 2302 | .428 230 | .225 8239 |
| .439 | .624 9498 | .216 477 | .237 1648 | .489 | .646 6645 | .432 661 | .225 5981 |
| 1.440 | 0.625 3841 | 4.220 696 | 0.236 9278 | 1.490 | 0.647 0988 | 4.437 096 | 0.225 3727 |
| .441 | .625 8183 | .224 919 | .236 6909 | .491 | .647 5331 | .441 535 | .225 1474 |
| .442 | .626 2526 | .229 146 | .236 4544 | .492 | .647 9674 | .445 979 | .224 9224 |
| .443 | .626 6869 | .233 377 | .236 2180 | .493 | .648 4017 | .450 427 | .224 6976 |
| .444 | .627 1212 | .237 612 | .235 9819 | .494 | .648 8360 | .454 879 | .224 4730 |
| 1.445 | 0.627 5555 | 4.241 852 | 0.235 7461 | 1.495 | 0.649 2703 | 4.459 337 | 0.224 2486 |
| .446 | .627 9898 | .246 096 | .235 5104 | .496 | .649 7045 | .463 798 | .224 0245 |
| .447 | .628 4241 | .250 344 | .235 2751 | .497 | .650 1388 | .468 254 | .223 8006 |
| .448 | .628 8584 | .254 597 | .235 0399 | .498 | .650 5731 | .472 735 | .223 5769 |
| .449 | .629 2927 | .258 854 | .234 8050 | .499 | .651 0074 | .477 210 | .223 3534 |
| 1.450 | 0.629 7270 | 4.263 115 | 0.234 5703 | 1.500 | 0.651 4417 | 4.481 689 | 0.223 1302 |
| $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 1.500 | 0.651 4417 | 4.481 689 | 0.223 1302 | 1.550 | 0.673 1564 | 4.711 470 | 0.212 2480 |
| .501 | .651 8760 | .486 173 | .222 9071 | .551 | .673 5907 | .716 184 | .212 0358 |
| .502 | .652 3103 | .490 601 | .222 6843 | .552 | .674 0250 | .720 903 | .211 8239 |
| .503 | .652 7446 | .495 154 | .222 4618 | .553 | .674 4593 | .725 626 | .211 6122 |
| .504 | .653 1789 | .499 652 | .222 2394 | .554 | .674 8936 | .730 354 | .211 4007 |
| 1.505 | 0.653 6132 | 4.504 154 | 0.222 0173 | 1.555 | 0.675 3279 | 4.735 087 | 0.211 1894 |
| .506 | .654 0475 | .508 660 | .221 7954 | .556 | .675 7622 | .739 824 | .210 9783 |
| .507 | .654 4818 | .513 171 | .221 5737 | .557 | .676 1965 | .744 566 | .210 7674 |
| .508 | .654 9161 | .517 686 | .221 3522 | .558 | .676 6308 | .749 313 | .210 5568 |
| .509 | .655 3504 | .522 206 | .221 1310 | .559 | .677 0651 | .754 065 | .210 3463 |
| 1.510 | 0.655 7847 | 4.526 731 | 0.220 9100 | 1.560 | 0.677 4994 | 4.758 821 | 0.210 1361 |
| .511 | .656 2190 | .531 260 | .220 6892 | .561 | .677 9337 | .763 582 | .209 9260 |
| .512 | .656 6533 | .535 793 | .220 4686 | .562 | .678 3680 | .768 348 | .209 7162 |
| .513 | .657 0876 | .540 331 | .220 2482 | .563 | .678 8023 | .773 119 | .209 5066 |
| .514 | .657 5218 | .544 874 | .220 0281 | .564 | .679 2366 | .777 895 | .209 2972 |
| 1.515 | 0.657 9561 | 4.549 421 | 0.219 8082 | 1.565 | 0.679 6709 | 4.782 675 | 0.209 0880 |
| .516 | .658 3904 | .553 973 | .219 5885 | .566 | .680 1052 | .787 460 | .208 8790 |
| .517 | .658 8247 | .558 529 | .219 3690 | .567 | .680 5395 | .792 250 | .208 6703 |
| .518 | .659 2590 | .563 090 | .219 1497 | .568 | .680 9737 | .797 045 | .208 4617 |
| .519 | .659 6933 | .567 655 | .218 9307 | .569 | .681 4080 | .801 844 | .208 2533 |
| 1.520 | 0.660 1276 | 4.572 225 | 0.218 7119 | 1.570 | 0.681 8423 | 4.806 648 | 0.208 0452 |
| .521 | .660 5619 | .576 800 | .218 4933 | .571 | .682 2766 | .811 457 | .207 8372 |
| .522 | .660 9962 | .581 379 | .218 2749 | .572 | .682 7109 | .816 271 | .207 6295 |
| .523 | .661 4305 | .585 962 | .218 0567 | .573 | .683 1452 | .821 090 | .207 4220 |
| .524 | .661 8648 | .590 551 | .217 8388 | .574 | .683 5795 | .825 913 | .207 2147 |
| 1.525 | 0.662 2991 | 4.595 144 | 0.217 6211 | 1.575 | 0.684 0138 | 4.830 742 | 0.207 0076 |
| .526 | .662 7334 | .599 741 | .217 4035 | .576 | .684 4481 | .835 575 | .206 8006 |
| .527 | .663 1677 | .604 343 | .217 1862 | .577 | .684 8824 | .840 413 | .206 5940 |
| .528 | .663 6020 | .608 950 | .216 9692 | .578 | .685 3167 | .845 256 | .206 3875 |
| .529 | .664 0363 | .613 561 | .216 7523 | .579 | .685 7510 | .850 103 | .206 1812 |
| 1.530 | 0.664 4706 | 4.618 177 | 0.216 5357 | 1.580 | 0.686 1853 | 4.854 956 | 0.205 9751 |
| .531 | .664 9049 | .622 797 | .216 3192 | .581 | .686 6196 | .859 813 | .205 7692 |
| .532 | .665 3391 | .627 422 | .216 1030 | .582 | .687 0539 | .864 675 | .205 5636 |
| .533 | .665 7734 | .632 052 | .215 8870 | .583 | .687 4882 | .869 543 | .205 3581 |
| .534 | .666 2077 | .636 687 | .215 6713 | .584 | .687 9225 | .874 415 | .205 1528 |
| 1.535 | 0.666 6420 | 4.641 326 | 0.215 4557 | 1.585 | 0.688 3568 | 4.879 291 | 0.204 9478 |
| .536 | .667 0763 | .645 969 | .215 2403 | .586 | .688 7910 | .884 173 | .204 7429 |
| .537 | .667 5106 | .650 617 | .215 0252 | .587 | .689 2253 | .889 060 | .204 5383 |
| .538 | .667 9449 | .655 270 | .214 8103 | .588 | .689 6596 | .893 951 | .204 3339 |
| .539 | .668 3792 | .659 928 | .214 5956 | .589 | .690 0939 | .898 848 | .204 1296 |
| 1.540 | 0.668 8135 | 4.664 590 | 0.214 3811 | 1.590 | 0.690 5282 | 4.903 749 | 0.203 9256 |
| .541 | .669 2478 | .669 257 | .214 1668 | .591 | .690 9625 | .908 655 | .203 7218 |
| .542 | .669 6821 | .673 929 | .213 9528 | .592 | .691 3968 | .913 566 | .203 5182 |
| .543 | .670 1164 | .678 605 | .213 7389 | .593 | .691 8311 | .918 482 | .203 3148 |
| .544 | .670 5507 | .683 286 | .213 5253 | .594 | .692 2654 | .923 403 | .203 1115 |
| 1.545 | 0.670 9850 | 4.687 972 | 0.213 3119 | 1.595 | 0.692 6997 | 4.928 329 | 0.202 9085 |
| .546 | .671 4193 | .692 662 | .213 0987 | .596 | .693 1340 | .933 260 | .202 7057 |
| .547 | .671 8536 | .697 357 | .212 8857 | .597 | .693 5683 | .938 196 | .202 5031 |
| .548 | .672 2879 | .702 057 | .212 6729 | .598 | .694 0026 | .943 136 | .202 3007 |
| .549 | .672 7222 | .706 761 | .212 4603 | .599 | .694 4369 | .948 082 | .202 0985 |
| 1.550 | 0.673 1564 | 4.711 470 | 0.212 2480 | 1.600 | 0.694 8712 | 4.953 032 | 0.201 8965 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 1.600 | 0.694 8712 | 4.953 032 | 0.201 8965 | 1.650 | 0.716 5859 | 5.206 980 | 0.192 0499 |
| .601 | .695 3055 | .957 988 | .201 6947 | .651 | .717 0202 | .212 189 | .191 8580 |
| .602 | .695 7398 | .962 948 | .201 4931 | .652 | .717 4545 | .217 404 | .191 6662 |
| .603 | .696 1741 | .967 914 | .201 2917 | .653 | .717 8888 | .222 624 | .191 4746 |
| .604 | .696 6083 | .972 884 | .201 0905 | .654 | .718 3231 | .227 849 | .191 2832 |
| 1.605 | 0.697 0426 | 4.977 860 | 0.200 8896 | 1.655 | 0.718 7574 | 5.233 080 | 0.191 0921 |
| .606 | .697 4769 | .982 840 | .200 6888 | .656 | .719 1917 | .238 316 | .190 9011 |
| .607 | .697 9112 | .987 825 | .200 4882 | .657 | .719 6260 | .243 557 | .190 7103 |
| .608 | .698 3455 | .992 816 | .200 2878 | .658 | .720 0603 | .248 803 | .190 5196 |
| .609 | .698 7798 | .997 811 | .200 0876 | .659 | .720 4945 | .254 054 | .190 3292 |
| 1.610 | 0.699 2141 | 5.002 811 | 0.199 8876 | 1.660 | 0.720 9288 | 5.259 311 | 0.190 1390 |
| .611 | .699 6484 | .007 817 | .199 6878 | .661 | .721 3631 | .264 573 | .189 9489 |
| .612 | .700 0827 | .012 827 | .199 4882 | .662 | .721 7974 | .269 840 | .189 7591 |
| .613 | .700 5170 | .017 842 | .199 2888 | .663 | .722 2317 | .275 112 | .189 5694 |
| .614 | .700 9513 | .022 863 | .199 0897 | .664 | .722 6660 | .280 390 | .189 3799 |
| 1.615 | 0.701 3856 | 5.027 888 | 0.198 8907 | 1.665 | 0.723 1003 | 5.285 673 | 0.189 1907 |
| .616 | .701 8199 | .032 918 | .198 6919 | .666 | .723 5346 | .290 962 | .189 0016 |
| .617 | .702 2542 | .037 954 | .198 4933 | .667 | .723 9689 | .296 255 | .188 8127 |
| .618 | .702 6885 | .042 994 | .198 2949 | .668 | .724 4032 | .301 554 | .188 6239 |
| .619 | .703 1228 | .048 040 | .198 0967 | .669 | .724 8375 | .306 858 | .188 4354 |
| 1.620 | 0.703 5571 | 5.053 090 | 0.197 8987 | 1.670 | 0.725 2718 | 5.312 168 | 0.188 2471 |
| .621 | .703 9914 | .058 146 | .197 7009 | .671 | .725 7061 | .317 483 | .188 0589 |
| .622 | .704 4256 | .063 207 | .197 5033 | .672 | .726 1404 | .322 803 | .187 8709 |
| .623 | .704 8599 | .068 272 | .197 3059 | .673 | .726 5747 | .328 128 | .187 6832 |
| .624 | .705 2942 | .073 343 | .197 1087 | .674 | .727 0090 | .333 459 | .187 4956 |
| 1.625 | 0.705 7285 | 5.078 419 | 0.196 9117 | 1.675 | 0.727 4433 | 5.338 795 | 0.187 3082 |
| .626 | .706 1628 | .083 500 | .196 7149 | .676 | .727 8776 | .344 137 | .187 1210 |
| .627 | .706 5971 | .088 586 | .196 5182 | .677 | .728 3118 | .349 483 | .186 9339 |
| .628 | .707 0314 | .093 677 | .196 3218 | .678 | .728 7461 | .354 836 | .186 7471 |
| .629 | .707 4657 | .098 773 | .196 1256 | .679 | .729 1804 | .360 193 | .186 5604 |
| 1.630 | 0.707 9000 | 5.103 875 | 0.195 9296 | 1.680 | 0.729 6147 | 5.365 556 | 0.186 3740 |
| .631 | .708 3343 | .108 981 | .195 7337 | .681 | .730 0490 | .370 924 | .186 1877 |
| .632 | .708 7686 | .114 093 | .195 5381 | .682 | .730 4833 | .376 298 | .186 0016 |
| .633 | .709 2029 | .119 209 | .195 3427 | .683 | .730 9176 | .381 677 | .185 8157 |
| .634 | .709 6372 | .124 331 | .195 1474 | .684 | .731 3519 | .387 061 | .185 6300 |
| 1.635 | 0.710 0715 | 5.129 458 | 0.194 9524 | 1.685 | 0.731 7862 | 5.392 451 | 0.185 4444 |
| .636 | .710 5058 | .134 590 | .194 7575 | .686 | .732 2205 | .397 846 | .185 2591 |
| .637 | .710 9401 | .139 727 | .194 5629 | .687 | .732 6548 | .403 247 | .185 0739 |
| .638 | .711 3744 | .144 869 | .194 3684 | .688 | .733 0891 | .408 653 | .184 8889 |
| .639 | .711 8087 | .150 017 | .194 1741 | .689 | .733 5234 | .414 064 | .184 7041 |
| 1.640 | 0.712 2430 | 5.155 170 | 0.193 9800 | 1.690 | 0.733 9577 | 5.419 481 | 0.184 5195 |
| .641 | .712 6772 | .160 327 | .193 7862 | .691 | .734 3920 | .424 903 | .184 3351 |
| .642 | .713 1115 | .165 490 | .193 5925 | .692 | .734 8263 | .430 331 | .184 1509 |
| .643 | .713 5458 | .170 658 | .193 3990 | .693 | .735 2606 | .435 764 | .183 9668 |
| .644 | .713 9801 | .175 831 | .193 2057 | .694 | .735 6949 | .441 202 | .183 7829 |
| 1.645 | 0.714 4144 | 5.181 010 | 0.193 0126 | 1.695 | 0.736 1291 | 5.446 646 | 0.183 5992 |
| .646 | .714 8487 | .186 194 | .192 8196 | .696 | .736 5634 | .452 095 | .183 4157 |
| .647 | .715 2830 | .191 382 | .192 6269 | .697 | .736 9977 | .457 550 | .183 2324 |
| .648 | .715 7173 | .196 576 | .192 4344 | .698 | .737 4320 | .463 010 | .183 0493 |
| .649 | .716 1516 | .201 775 | .192 2421 | .699 | .737 8663 | .468 476 | .182 8663 |
| 1.650 | 0.716 5859 | 5.206 980 | 0.192 0499 | 1.700 | 0.738 3006 | 5.473 947 | 0.182 6835 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 1.700 | 0.738 3006 | 5.473 947 | 0.182 6835 | 1.750 | 0.760 0153 | 5.754 603 | 0.173 7739 |
| .701 | .738 7349 | .479 424 | .182 5009 | .751 | .760 4496 | .760 360 | .173 6003 |
| .702 | .739 1692 | .484 906 | .182 3185 | .752 | .760 8839 | .766 123 | .173 4267 |
| .703 | .739 6035 | .490 394 | .182 1363 | .753 | .761 3182 | .771 892 | .173 2534 |
| .704 | .740 0378 | .495 887 | .181 9542 | .754 | .761 7525 | .777 667 | .173 0802 |
| 1.705 | 0.740 4721 | 5.501 386 | 0.181 7724 | 1.755 | 0.762 1868 | 5.783 448 | 0.172 9072 |
| .706 | .740 9064 | .504 890 | .181 5907 | .756 | .762 6211 | .789 234 | .172 7344 |
| .707 | .741 3407 | .512 399 | .181 4092 | .757 | .763 0554 | .795 026 | .172 5618 |
| .708 | .741 7750 | .517 915 | .181 2279 | .758 | .763 4897 | .800 824 | .172 3893 |
| .709 | .742 2093 | .523 435 | .181 0467 | .759 | .763 9240 | .806 628 | .172 2170 |
| 1.710 | 0.742 6436 | 5.528 961 | 0.180 8658 | 1.760 | 0.764 3583 | 5.812 437 | 0.172 0449 |
| .711 | .743 0779 | .534 493 | .180 6850 | .761 | .764 7926 | .818 253 | .171 8729 |
| .712 | .743 5122 | .540 030 | .180 5044 | .762 | .765 2269 | .824 074 | .171 7011 |
| .713 | .743 9464 | .545 573 | .180 3240 | .763 | .765 6612 | .829 901 | .171 5295 |
| .714 | .744 3807 | .551 122 | .180 1438 | .764 | .766 0955 | .835 734 | .171 3581 |
| 1.715 | 0.744 8150 | 5.556 676 | 0.179 9637 | 1.765 | 0.766 5298 | 5.841 572 | 0.171 1868 |
| .716 | .745 2493 | .562 235 | .179 7838 | .766 | .766 9641 | .847 417 | .171 0157 |
| .717 | .745 6836 | .567 800 | .179 6042 | .767 | .767 3983 | .853 267 | .170 8448 |
| .718 | .746 1179 | .573 371 | .179 4246 | .768 | .767 8326 | .859 123 | .170 6740 |
| .719 | .746 5522 | .578 947 | .179 2453 | .769 | .768 2669 | .864 985 | .170 5034 |
| 1.720 | 0.746 9865 | 5.584 528 | 0.179 0661 | 1.770 | 0.768 7012 | 5.870 853 | 0.170 3330 |
| .721 | .747 4208 | .590 116 | .178 8872 | .771 | .769 1355 | .876 727 | .170 1627 |
| .722 | .747 8551 | .595 709 | .178 7084 | .772 | .769 5698 | .882 607 | .169 9927 |
| .723 | .748 2894 | .601 307 | .178 5298 | .773 | .770 0041 | .888 492 | .169 8228 |
| .724 | .748 7237 | .606 911 | .178 3513 | .774 | .770 4384 | .894 384 | .169 6530 |
| 1.725 | 0.749 1580 | 5.612 521 | 0.178 1731 | 1.775 | 0.770 8727 | 5.900 281 | 0.169 4834 |
| .726 | .749 5923 | .618 136 | .177 9950 | .776 | .771 3070 | .906 184 | .169 3141 |
| .727 | .750 0266 | .623 757 | .177 8171 | .777 | .771 7413 | .912 094 | .169 1448 |
| .728 | .750 4609 | .629 384 | .177 6393 | .778 | .772 1756 | .918 009 | .168 9758 |
| .729 | .750 8952 | .635 016 | .177 4618 | .779 | .772 6099 | .923 930 | .168 8069 |
| 1.730 | 0.751 3295 | 5.640 654 | 0.177 2844 | 1.780 | 0.773 0442 | 5.929 856 | 0.168 6381 |
| .731 | .751 7637 | .646 297 | .177 1072 | .781 | .773 4785 | .935 789 | .168 4696 |
| .732 | .752 1980 | .651 947 | .176 9302 | .782 | .773 9128 | .941 728 | .168 3012 |
| .733 | .752 6323 | .657 601 | .176 7534 | .783 | .774 3471 | .947 673 | .168 1330 |
| .734 | .753 0666 | .663 262 | .176 5767 | .784 | .774 7814 | .953 623 | .167 9649 |
| 1.735 | 0.753 5009 | 5.668 928 | 0.176 4002 | 1.785 | 0.775 2157 | 5.959 580 | 0.167 7971 |
| .736 | .753 9352 | .674 600 | .176 2239 | .786 | .775 6499 | .965 543 | .167 6293 |
| .737 | .754 3695 | .680 277 | .176 0478 | .787 | .776 0842 | .971 511 | .167 4618 |
| .738 | .754 8038 | .685 960 | .175 8718 | .788 | .776 5185 | .977 486 | .167 2944 |
| .739 | .755 2381 | .691 649 | .175 6960 | .789 | .776 9528 | .983 466 | .167 1272 |
| 1.740 | 0.755 6724 | 5.697 343 | 0.175 5204 | 1.790 | 0.777 3871 | 5.989 452 | 0.166 9602 |
| .741 | .756 1067 | .703 044 | .175 3450 | .791 | .777 8214 | .995 445 | .166 7933 |
| .742 | .756 5410 | .708 750 | .175 1697 | .792 | .778 2557 | 6.001 443 | .166 6266 |
| .743 | .756 9753 | .714 461 | .174 9946 | .793 | .778 6900 | .007 448 | .166 4600 |
| .744 | .757 4096 | .720 178 | .174 8197 | .794 | .779 1243 | .013 458 | .166 2937 |
| 1.745 | 0.757 8439 | 5.725 901 | 0.174 6450 | 1.795 | 0.779 5586 | 6.019 475 | 0.166 1275 |
| .746 | .758 2782 | .731 630 | .174 4704 | .796 | .779 9929 | .025 497 | .165 9614 |
| .747 | .758 7125 | .737 365 | .174 2960 | .797 | .780 4272 | .031 526 | .165 7955 |
| .748 | .759 1468 | .743 105 | .174 1218 | .798 | .780 8615 | .037 560 | .165 6298 |
| .749 | .759 5810 | .748 851 | .173 9478 | .799 | .781 2958 | .043 601 | .165 4643 |
| 1.750 | 0.760 0153 | 5.754 603 | 0.173 7739 | 1.800 | 0.781 7301 | 6.049 647 | 0.165 2989 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|------------------|------------------|-----------|------------|------------------|------------------|-----------|------------|
| 1.800 | 0.781 7301 | 6.049 647 | 0.165 2989 | 1.850 | 0.803 4448 | 6.359 820 | 0.157 2372 |
| .801 | .782 1644 | .055 700 | .165 1337 | .851 | .803 8791 | .366 183 | .157 0800 |
| .802 | .782 5987 | .061 759 | .164 9686 | .852 | .804 3134 | .372 552 | .156 9230 |
| .803 | .783 0330 | .067 824 | .164 8037 | .853 | .804 7477 | .378 928 | .156 7662 |
| .804 | .783 4672 | .073 895 | .164 6390 | .854 | .805 1820 | .385 310 | .156 6095 |
| 1.805 | 0.783 9015 | 6.079 971 | 0.164 4745 | 1.855 | 0.805 6163 | 6.391 698 | 0.156 4529 |
| .806 | .784 3358 | .086 054 | .164 3101 | .856 | .806 0506 | .398 093 | .156 2966 |
| .807 | .784 7701 | .092 144 | .164 1458 | .857 | .806 4849 | .404 494 | .156 1403 |
| .808 | .785 2044 | .098 239 | .163 9818 | .858 | .806 9191 | .410 902 | .155 9843 |
| .809 | .785 6387 | .104 340 | .163 8179 | .859 | .807 3534 | .417 316 | .155 8284 |
| 1.810 | 0.786 0730 | 6.110 447 | 0.163 6541 | 1.860 | 0.807 7877 | 6.423 737 | 0.155 6726 |
| .811 | .786 5073 | .116 561 | .163 4906 | .861 | .808 2220 | .430 164 | .155 5170 |
| .812 | .786 9416 | .122 681 | .163 3272 | .862 | .808 6563 | .436 597 | .155 3616 |
| .813 | .787 3759 | .128 806 | .163 1630 | .863 | .809 0906 | .443 037 | .155 2063 |
| .814 | .787 8102 | .134 938 | .163 0008 | .864 | .809 5249 | .449 483 | .155 0512 |
| 1.815 | 0.788 2445 | 6.141 076 | 0.162 8379 | 1.865 | 0.809 9592 | 6.455 936 | 0.154 8962 |
| .816 | .788 6788 | .147 220 | .162 6752 | .866 | .810 3935 | .462 395 | .154 7414 |
| .817 | .789 1131 | .153 371 | .162 5126 | .867 | .810 8278 | .468 861 | .154 5867 |
| .818 | .789 5474 | .159 527 | .162 3501 | .868 | .811 2621 | .475 333 | .154 4322 |
| .819 | .789 9817 | .165 690 | .162 1879 | .869 | .811 6964 | .481 811 | .154 2779 |
| 1.820 | 0.790 4160 | 6.171 858 | 0.162 0258 | 1.870 | 0.812 1307 | 6.488 296 | 0.154 1237 |
| .821 | .790 8503 | .178 033 | .161 8638 | .871 | .812 5650 | .494 788 | .153 9696 |
| .822 | .791 2845 | .184 215 | .161 7020 | .872 | .813 0093 | .501 286 | .153 8157 |
| .823 | .791 7188 | .190 402 | .161 5404 | .873 | .813 4336 | .507 791 | .153 6620 |
| .824 | .792 1531 | .196 595 | .161 3789 | .874 | .813 8679 | .514 302 | .153 5084 |
| 1.825 | 0.792 5874 | 6.202 795 | 0.161 2176 | 1.875 | 0.814 3022 | 6.520 819 | 0.153 3550 |
| .826 | .793 0217 | .209 001 | .161 0565 | .876 | .814 7364 | .527 343 | .153 2017 |
| .827 | .793 4560 | .215 213 | .160 8955 | .877 | .815 1707 | .533 874 | .153 0486 |
| .828 | .793 8903 | .221 431 | .160 7347 | .878 | .815 6050 | .540 411 | .152 8956 |
| .829 | .794 3246 | .227 656 | .160 5741 | .879 | .816 0393 | .546 955 | .152 7428 |
| 1.830 | 0.794 7589 | 6.233 887 | 0.160 4136 | 1.880 | 0.816 4736 | 6.553 505 | 0.152 5901 |
| .831 | .795 1932 | .240 124 | .160 2532 | .881 | .816 9079 | .560 062 | .152 4376 |
| .832 | .795 6275 | .246 367 | .160 0931 | .882 | .817 3422 | .566 625 | .152 2852 |
| .833 | .796 0618 | .252 616 | .159 9330 | .883 | .817 7765 | .573 195 | .152 1330 |
| .834 | .796 4961 | .258 872 | .159 7732 | .884 | .818 2108 | .579 771 | .151 9810 |
| 1.835 | 0.796 9304 | 6.265 134 | 0.159 6135 | 1.885 | 0.818 6451 | 6.586 354 | 0.151 8291 |
| .836 | .797 3647 | .271 402 | .159 4540 | .886 | .819 0794 | .592 944 | .151 6773 |
| .837 | .797 7990 | .277 677 | .159 2946 | .887 | .819 5137 | .599 540 | .151 5257 |
| .838 | .798 2333 | .283 958 | .159 1354 | .888 | .819 9480 | .606 143 | .151 3743 |
| .839 | .798 6676 | .290 245 | .158 9763 | .889 | .820 3823 | .612 753 | .151 2230 |
| 1.840 | 0.799 1018 | 6.296 538 | 0.158 8174 | 1.890 | 0.820 8166 | 6.619 369 | 0.151 0718 |
| .841 | .799 5361 | .302 838 | .158 6587 | .891 | .821 2509 | .625 991 | .150 9208 |
| .842 | .799 9704 | .309 144 | .158 5001 | .892 | .821 6852 | .632 621 | .150 7700 |
| .843 | .800 4047 | .315 456 | .158 3417 | .893 | .822 1195 | .639 257 | .150 6193 |
| .844 | .800 8390 | .321 775 | .158 1834 | .894 | .822 5537 | .645 899 | .150 4687 |
| 1.845 | 0.801 2733 | 6.328 100 | 0.158 0253 | 1.895 | 0.822 9880 | 6.652 548 | 0.150 3183 |
| .846 | .801 7076 | .334 431 | .157 8674 | .896 | .823 4223 | .659 204 | .150 1681 |
| .847 | .802 1419 | .340 769 | .157 7096 | .897 | .823 8566 | .665 867 | .150 0180 |
| .848 | .802 5762 | .347 113 | .157 5520 | .898 | .824 2909 | .672 536 | .149 8681 |
| .849 | .803 0105 | .353 463 | .157 3945 | .899 | .824 7252 | .679 212 | .149 7183 |
| 1.850 | 0.803 4448 | 6.359 820 | 0.157 2372 | 1.900 | 0.825 1595 | 6.685 894 | 0.149 5686 |
| $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_{10}(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| I. 900 | 0.825 1595 | 6.685 894 | 0.149 5686 | I. 950 | 0.846 8742 | 7.028 688 | 0.142 2741 |
| .901 | .825 5938 | .692 584 | .149 4191 | .951 | .847 3085 | .703 720 | .142 1319 |
| .902 | .826 0281 | .699 280 | .149 2698 | .952 | .847 7428 | .704 759 | .141 9898 |
| .903 | .826 4624 | .705 982 | .149 1206 | .953 | .848 1771 | .704 805 | .141 8479 |
| .904 | .826 8967 | .712 692 | .148 9715 | .954 | .848 6114 | .705 859 | .141 7061 |
| I. 905 | 0.827 3310 | 6.719 408 | 0.148 8226 | I. 955 | 0.849 0457 | 7.063 919 | 0.141 5645 |
| .906 | .827 7653 | .726 130 | .148 6739 | .956 | .849 4800 | .707 986 | .141 4230 |
| .907 | .828 1996 | .732 860 | .148 5253 | .957 | .849 9143 | .708 061 | .141 2816 |
| .908 | .828 6339 | .739 596 | .148 3768 | .958 | .850 3486 | .708 143 | .141 1404 |
| .909 | .829 0682 | .746 339 | .148 2285 | .959 | .850 7829 | .709 231 | .140 9993 |
| I. 910 | 0.829 5025 | 6.753 089 | 0.148 0804 | I. 960 | 0.851 2172 | 7.099 327 | 0.140 8584 |
| .911 | .829 9368 | .759 845 | .147 9324 | .961 | .851 6515 | .710 430 | .140 7176 |
| .912 | .830 3710 | .766 608 | .147 7845 | .962 | .852 0858 | .711 540 | .140 5770 |
| .913 | .830 8053 | .773 378 | .147 6368 | .963 | .852 5201 | .712 657 | .140 4365 |
| .914 | .831 2396 | .780 155 | .147 4892 | .964 | .852 9544 | .712 781 | .140 2961 |
| I. 915 | 0.831 6739 | 6.786 939 | 0.147 3418 | I. 965 | 0.853 3887 | 7.134 913 | 0.140 1559 |
| .916 | .832 1082 | .793 729 | .147 1946 | .966 | .853 8230 | .712 051 | .140 0158 |
| .917 | .832 5425 | .800 526 | .147 0474 | .967 | .854 2572 | .712 197 | .139 8759 |
| .918 | .832 9768 | .807 330 | .146 9005 | .968 | .854 6915 | .713 349 | .139 7360 |
| .919 | .833 4111 | .814 141 | .146 7536 | .969 | .855 1258 | .713 509 | .139 5964 |
| I. 920 | 0.833 8454 | 6.820 958 | 0.146 6070 | I. 970 | 0.855 5601 | 7.170 676 | 0.139 4569 |
| .921 | .834 2797 | .827 783 | .146 4604 | .971 | .855 9944 | .713 851 | .139 3175 |
| .922 | .834 7140 | .834 614 | .146 3140 | .972 | .856 4287 | .714 032 | .139 1782 |
| .923 | .835 1483 | .841 452 | .146 1678 | .973 | .856 8630 | .714 221 | .139 0391 |
| .924 | .835 5826 | .848 297 | .146 0217 | .974 | .857 2973 | .714 417 | .138 9001 |
| I. 925 | 0.836 0169 | 6.855 149 | 0.145 8758 | I. 975 | 0.857 7316 | 7.206 620 | 0.138 7613 |
| .926 | .836 4512 | .862 007 | .145 7300 | .976 | .858 1659 | .715 830 | .138 6226 |
| .927 | .836 8855 | .868 873 | .145 5843 | .977 | .858 6002 | .716 047 | .138 4841 |
| .928 | .837 3198 | .875 745 | .145 4388 | .978 | .859 0345 | .716 272 | .138 3457 |
| .929 | .837 7541 | .882 624 | .145 2934 | .979 | .859 4688 | .716 504 | .138 2074 |
| I. 930 | 0.838 1884 | 6.889 510 | 0.145 1482 | I. 980 | 0.859 9031 | 7.242 743 | 0.138 0692 |
| .931 | .838 6226 | .896 403 | .145 0031 | .981 | .860 3374 | .717 989 | .137 9312 |
| .932 | .839 0569 | .903 303 | .144 8582 | .982 | .860 7717 | .718 243 | .137 7934 |
| .933 | .839 4912 | .910 210 | .144 7134 | .983 | .861 2060 | .718 504 | .137 6557 |
| .934 | .839 9255 | .917 123 | .144 5688 | .984 | .861 6403 | .718 772 | .137 5181 |
| I. 935 | 0.840 3598 | 6.924 044 | 0.144 4243 | I. 985 | 0.862 0745 | 7.279 047 | 0.137 3806 |
| .936 | .840 7941 | .930 972 | .144 2799 | .986 | .862 5088 | .719 330 | .137 2433 |
| .937 | .841 2284 | .937 906 | .144 1357 | .987 | .862 9431 | .719 620 | .137 1061 |
| .938 | .841 6627 | .944 847 | .143 9916 | .988 | .863 3774 | .719 917 | .136 9691 |
| .939 | .842 0970 | .951 796 | .143 8477 | .989 | .863 8117 | .720 222 | .136 8322 |
| I. 940 | 0.842 5313 | 6.958 751 | 0.143 7039 | I. 990 | 0.864 2460 | 7.315 534 | 0.136 6954 |
| .941 | .842 9656 | .965 713 | .143 5603 | .991 | .864 6803 | .721 853 | .136 5588 |
| .942 | .843 3999 | .972 682 | .143 4168 | .992 | .865 1146 | .722 179 | .136 4223 |
| .943 | .843 8342 | .979 659 | .143 2735 | .993 | .865 5489 | .722 513 | .136 2860 |
| .944 | .844 2685 | .986 642 | .143 1303 | .994 | .865 9832 | .722 854 | .136 1497 |
| I. 945 | 0.844 7028 | 6.993 632 | 0.142 9872 | I. 995 | 0.866 4175 | 7.352 203 | 0.136 0137 |
| .946 | .845 1371 | .990 629 | .142 8443 | .996 | .866 8518 | .723 559 | .135 8777 |
| .947 | .845 5714 | .997 633 | .142 7015 | .997 | .867 2861 | .723 922 | .135 7419 |
| .948 | .846 0057 | .994 644 | .142 5589 | .998 | .867 7204 | .724 293 | .135 6062 |
| .949 | .846 4399 | .991 662 | .142 4164 | .999 | .868 1547 | .724 671 | .135 4707 |
| I. 950 | 0.846 8742 | 7.028 688 | 0.142 2741 | 2.000 | 0.868 5890 | 7.389 056 | 0.135 3353 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 2.000 | 0.868 5890 | 7.389 056 | 0.135 3353 | 2.050 | 0.890 3037 | 7.767 901 | 0.128 7349 |
| .001 | .869 0233 | .396 449 | .135 2000 | .051 | .890 7380 | .775 673 | .128 6062 |
| .002 | .869 4576 | .403 849 | .135 0649 | .052 | .891 1723 | .783 452 | .128 4777 |
| .003 | .869 8918 | .411 257 | .134 9299 | .053 | .891 6066 | .791 240 | .128 3493 |
| .004 | .870 3261 | .418 672 | .134 7950 | .054 | .892 0409 | .799 035 | .128 2210 |
| 2.005 | 0.870 7604 | 7.426 094 | 0.134 6603 | 2.055 | 0.892 4752 | 7.806 838 | 0.128 0928 |
| .006 | .871 1947 | .433 524 | .134 5257 | .056 | .892 9095 | .814 649 | .127 9648 |
| .007 | .871 6290 | .440 961 | .134 3912 | .057 | .893 3437 | .822 467 | .127 8369 |
| .008 | .872 0633 | .448 406 | .134 2569 | .058 | .893 7780 | .830 294 | .127 7091 |
| .009 | .872 4976 | .455 858 | .134 1227 | .059 | .894 2123 | .838 128 | .127 5815 |
| 2.010 | 0.872 9319 | 7.463 317 | 0.133 9887 | 2.060 | 0.894 6466 | 7.845 970 | 0.127 4540 |
| .011 | .873 3662 | .470 784 | .133 8548 | .061 | .895 0809 | .853 820 | .127 3266 |
| .012 | .873 8005 | .478 259 | .133 7210 | .062 | .895 5152 | .861 677 | .127 1993 |
| .013 | .874 2348 | .485 741 | .133 5873 | .063 | .895 9495 | .869 543 | .127 0722 |
| .014 | .874 6691 | .493 230 | .133 4538 | .064 | .896 3838 | .877 417 | .126 9452 |
| 2.015 | 0.875 1034 | 7.500 727 | 0.133 3204 | 2.065 | 0.896 8181 | 7.885 298 | 0.126 8183 |
| .016 | .875 5377 | .508 232 | .133 1871 | .066 | .897 2524 | .893 187 | .126 6915 |
| .017 | .875 9720 | .515 744 | .133 0540 | .067 | .897 6867 | .901 084 | .126 5649 |
| .018 | .876 4063 | .523 263 | .132 9210 | .068 | .898 1210 | .908 989 | .126 4384 |
| .019 | .876 8406 | .530 790 | .132 7882 | .069 | .898 5553 | .916 902 | .126 3120 |
| 2.020 | 0.877 2749 | 7.538 325 | 0.132 6555 | 2.070 | 0.898 9896 | 7.924 823 | 0.126 1858 |
| .021 | .877 7091 | .545 867 | .132 5229 | .071 | .899 4239 | .932 752 | .126 0597 |
| .022 | .878 1434 | .553 417 | .132 3904 | .072 | .899 8582 | .940 689 | .125 9337 |
| .023 | .878 5777 | .560 974 | .132 2581 | .073 | .900 2925 | .948 633 | .125 8078 |
| .024 | .879 0120 | .568 539 | .132 1259 | .074 | .900 7268 | .956 586 | .125 6820 |
| 2.025 | 0.879 4463 | 7.576 111 | 0.131 9938 | 2.075 | 0.901 1610 | 7.964 546 | 0.125 5564 |
| .026 | .879 8806 | .583 691 | .131 8619 | .076 | .901 5953 | .972 515 | .125 4309 |
| .027 | .880 3149 | .591 278 | .131 7301 | .077 | .902 0296 | .980 491 | .125 3056 |
| .028 | .880 7492 | .598 873 | .131 5985 | .078 | .902 4639 | .988 476 | .125 1803 |
| .029 | .881 1835 | .606 476 | .131 4669 | .079 | .902 8982 | .996 468 | .125 0552 |
| 2.030 | 0.881 6178 | 7.614 086 | 0.131 3355 | 2.080 | 0.903 3325 | 8.004 469 | 0.124 9302 |
| .031 | .882 0521 | .621 704 | .131 2043 | .081 | .903 7668 | .012 477 | .124 8053 |
| .032 | .882 4864 | .629 330 | .131 0731 | .082 | .904 2011 | .020 494 | .124 6806 |
| .033 | .882 9207 | .636 963 | .130 9421 | .083 | .904 6354 | .028 518 | .124 5560 |
| .034 | .883 3550 | .644 604 | .130 8112 | .084 | .905 0697 | .036 551 | .124 4315 |
| 2.035 | 0.883 7893 | 7.652 252 | 0.130 6805 | 2.085 | 0.905 5040 | 8.044 591 | 0.124 3071 |
| .036 | .884 2236 | .659 908 | .130 5499 | .086 | .905 9383 | .052 640 | .124 1829 |
| .037 | .884 6579 | .667 572 | .130 4194 | .087 | .906 3726 | .060 697 | .124 0588 |
| .038 | .885 0922 | .675 243 | .130 2890 | .088 | .906 8069 | .068 761 | .123 9348 |
| .039 | .885 5264 | .682 922 | .130 1588 | .089 | .907 2412 | .076 834 | .123 8109 |
| 2.040 | 0.885 9607 | 7.690 609 | 0.130 0287 | 2.090 | 0.907 6755 | 8.084 915 | 0.123 6871 |
| .041 | .886 3950 | .698 304 | .129 8987 | .091 | .908 1098 | .093 004 | .123 5635 |
| .042 | .886 8293 | .706 006 | .129 7689 | .092 | .908 5441 | .101 101 | .123 4400 |
| .043 | .887 2636 | .713 716 | .129 6392 | .093 | .908 9784 | .109 206 | .123 3166 |
| .044 | .887 6979 | .721 433 | .129 5096 | .094 | .909 4126 | .117 320 | .123 1934 |
| 2.045 | 0.888 1322 | 7.729 159 | 0.129 3802 | 2.095 | 0.909 8469 | 8.125 441 | 0.123 0702 |
| .046 | .888 5665 | .736 892 | .129 2509 | .096 | .910 2812 | .133 570 | .122 9472 |
| .047 | .889 0008 | .744 632 | .129 1217 | .097 | .910 7155 | .141 708 | .122 8243 |
| .048 | .889 4351 | .752 381 | .128 9926 | .098 | .911 1498 | .149 854 | .122 7016 |
| .049 | .889 8694 | .760 137 | .128 8637 | .099 | .911 5841 | .158 008 | .122 5789 |
| 2.050 | 0.890 3037 | 7.767 901 | 0.128 7349 | 2.100 | 0.912 0184 | 8.166 170 | 0.122 4564 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 2.100 | 0.912 0184 | 8.166 170 | 0.122 4564 | 2.150 | 0.933 7331 | 8.584 858 | 0.116 4842 |
| .101 | .912 4527 | .174 340 | .122 3340 | .151 | .934 1674 | .593 448 | .116 3677 |
| .102 | .912 8870 | .182 519 | .122 2118 | .152 | .934 6017 | .602 045 | .116 2514 |
| .103 | .913 3213 | .190 705 | .122 0806 | .153 | .935 0360 | .610 652 | .116 1352 |
| .104 | .913 7556 | .198 900 | .121 9676 | .154 | .935 4703 | .619 267 | .116 0192 |
| 2.105 | 0.914 1899 | 8.207 103 | 0.121 8457 | 2.155 | 0.935 9046 | 8.627 890 | 0.115 9032 |
| .106 | .914 6242 | .215 314 | .121 7239 | .156 | .936 3389 | .636 522 | .115 7873 |
| .107 | .915 0585 | .223 534 | .121 6022 | .157 | .936 7732 | .645 163 | .115 6716 |
| .108 | .915 4928 | .231 761 | .121 4807 | .158 | .937 2075 | .653 813 | .115 5560 |
| .109 | .915 9271 | .239 997 | .121 3593 | .159 | .937 6418 | .662 471 | .115 4405 |
| 2.110 | 0.916 3614 | 8.248 241 | 0.121 2380 | 2.160 | 0.938 0761 | 8.671 138 | 0.115 3251 |
| .111 | .916 7957 | .256 494 | .121 1168 | .161 | .938 5104 | .679 813 | .115 2099 |
| .112 | .917 2290 | .264 754 | .120 9957 | .162 | .938 9447 | .688 497 | .115 0947 |
| .113 | .917 6642 | .273 023 | .120 8748 | .163 | .939 3790 | .697 190 | .114 9797 |
| .114 | .918 0985 | .281 300 | .120 7540 | .164 | .939 8133 | .705 892 | .114 8647 |
| 2.115 | 0.918 5328 | 8.289 586 | 0.120 6333 | 2.165 | 0.940 2476 | 8.714 602 | 0.114 7499 |
| .116 | .918 9671 | .297 879 | .120 5127 | .166 | .940 6818 | .723 321 | .114 6352 |
| .117 | .919 4014 | .306 182 | .120 3923 | .167 | .941 1161 | .732 049 | .114 5207 |
| .118 | .919 8357 | .314 492 | .120 2719 | .168 | .941 5504 | .740 785 | .114 4062 |
| .119 | .920 2700 | .322 811 | .120 1517 | .169 | .941 9847 | .749 530 | .114 2919 |
| 2.120 | 0.920 7043 | 8.331 137 | 0.120 0316 | 2.170 | 0.942 4190 | 8.758 284 | 0.114 1776 |
| .121 | .921 1386 | .339 473 | .119 9117 | .171 | .942 8533 | .767 047 | .114 0635 |
| .122 | .921 5729 | .347 816 | .119 7918 | .172 | .943 2876 | .775 818 | .113 9495 |
| .123 | .922 0072 | .356 168 | .119 6721 | .173 | .943 7219 | .784 598 | .113 8356 |
| .124 | .922 4415 | .364 529 | .119 5525 | .174 | .944 1562 | .793 387 | .113 7218 |
| 2.125 | 0.922 8758 | 8.372 897 | 0.119 4330 | 2.175 | 0.944 5905 | 8.802 185 | 0.113 6082 |
| .126 | .923 3101 | .381 275 | .119 3136 | .176 | .945 0248 | .810 992 | .113 4946 |
| .127 | .923 7444 | .389 660 | .119 1943 | .177 | .945 4591 | .819 807 | .113 3812 |
| .128 | .924 1787 | .398 054 | .119 0752 | .178 | .945 8934 | .828 631 | .113 2678 |
| .129 | .924 6130 | .406 456 | .118 9562 | .179 | .946 3277 | .837 464 | .113 1546 |
| 2.130 | 0.925 0472 | 8.414 867 | 0.118 8373 | 2.180 | 0.946 7620 | 8.846 306 | 0.113 0415 |
| .131 | .925 4815 | .423 286 | .118 7185 | .181 | .947 1963 | .855 157 | .112 9285 |
| .132 | .925 9158 | .431 713 | .118 5999 | .182 | .947 6306 | .864 017 | .112 8157 |
| .133 | .926 3501 | .440 149 | .118 4813 | .183 | .948 0649 | .872 885 | .112 7029 |
| .134 | .926 7844 | .448 594 | .118 3629 | .184 | .948 4991 | .881 762 | .112 5903 |
| 2.135 | 0.927 2187 | 8.457 047 | 0.118 2446 | 2.185 | 0.948 9334 | 8.890 649 | 0.112 4777 |
| .136 | .927 6530 | .465 508 | .118 1264 | .186 | .949 3677 | .899 544 | .112 3653 |
| .137 | .928 0873 | .473 978 | .118 0083 | .187 | .949 8020 | .908 448 | .112 2530 |
| .138 | .928 5216 | .482 456 | .117 8904 | .188 | .950 2363 | .917 361 | .112 1408 |
| .139 | .928 9559 | .490 942 | .117 7726 | .189 | .950 6706 | .926 282 | .112 0287 |
| 2.140 | 0.929 3902 | 8.499 438 | 0.117 6548 | 2.190 | 0.951 1049 | 8.935 213 | 0.111 9167 |
| .141 | .929 8245 | .507 941 | .117 5372 | .191 | .951 5392 | .944 153 | .111 8049 |
| .142 | .930 2588 | .516 454 | .117 4198 | .192 | .951 9735 | .953 101 | .111 6931 |
| .143 | .930 6931 | .524 974 | .117 3024 | .193 | .952 4078 | .962 059 | .111 5815 |
| .144 | .931 1274 | .533 503 | .117 1852 | .194 | .952 8421 | .971 026 | .111 4700 |
| 2.145 | 0.931 5617 | 8.542 041 | 0.117 0680 | 2.195 | 0.953 2764 | 8.980 001 | 0.111 3586 |
| .146 | .931 9960 | .550 588 | .116 9510 | .196 | .953 7107 | .988 986 | .111 2473 |
| .147 | .932 4303 | .559 142 | .116 8341 | .197 | .954 1450 | .997 979 | .111 1361 |
| .148 | .932 8645 | .567 706 | .116 7174 | .198 | .954 5793 | 9.006 982 | .111 0250 |
| .149 | .933 2988 | .576 278 | .116 6007 | .199 | .955 0136 | .015 993 | .110 9140 |
| 2.150 | 0.933 7331 | 8.584 858 | 0.116 4842 | 2.200 | 0.955 4479 | 9.025 013 | 0.110 8032 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-----------|------------|---------------|------------------|-----------|------------|
| 2.200 | 0.955 4479 | 9.025 013 | 0.110 8032 | 2.250 | 0.977 1626 | 9.487 736 | 0.105 3992 |
| .201 | .955 8822 | .034 043 | .110 6924 | .251 | .977 5069 | .497 228 | .105 2039 |
| .202 | .956 3164 | .043 082 | .110 5818 | .252 | .978 0312 | .506 730 | .105 1886 |
| .203 | .956 7507 | .052 129 | .110 4712 | .253 | .978 4655 | .516 242 | .105 0835 |
| .204 | .957 1850 | .061 186 | .110 3608 | .254 | .978 8998 | .525 763 | .104 9785 |
| 2.205 | 0.957 6193 | 9.070 252 | 0.110 2505 | 2.255 | 0.979 3341 | 9.535 293 | 0.104 8735 |
| .206 | .958 0536 | .079 326 | .110 1403 | .256 | .979 7684 | .544 833 | .104 7687 |
| .207 | .958 4879 | .088 410 | .110 0302 | .257 | .980 2026 | .554 383 | .104 6640 |
| .208 | .958 9222 | .097 503 | .109 9203 | .258 | .980 6369 | .563 942 | .104 5594 |
| .209 | .959 3565 | .106 605 | .109 8104 | .259 | .981 0712 | .573 511 | .104 4549 |
| 2.210 | 0.959 7908 | 9.115 716 | 0.109 7006 | 2.260 | 0.981 5055 | 9.583 089 | 0.104 3505 |
| .211 | .960 2251 | .124 837 | .109 5910 | .261 | .981 9398 | .592 677 | .104 2462 |
| .212 | .960 6594 | .133 966 | .109 4815 | .262 | .982 3741 | .602 275 | .104 1420 |
| .213 | .961 0937 | .143 105 | .109 3720 | .263 | .982 8084 | .611 882 | .104 0379 |
| .214 | .961 5280 | .152 252 | .109 2627 | .264 | .983 2427 | .621 498 | .103 9339 |
| 2.215 | 0.961 9623 | 9.161 409 | 0.109 1535 | 2.265 | 0.983 6770 | 9.631 125 | 0.103 8300 |
| .216 | .962 3966 | .170 575 | .109 0444 | .266 | .984 1113 | .640 761 | .103 7263 |
| .217 | .962 8309 | .179 750 | .108 9354 | .267 | .984 5456 | .650 406 | .103 6226 |
| .218 | .963 2652 | .188 935 | .108 8265 | .268 | .984 9799 | .660 061 | .103 5190 |
| .219 | .963 6995 | .198 128 | .108 7178 | .269 | .985 4142 | .669 726 | .103 4155 |
| 2.220 | 0.964 1337 | 9.207 331 | 0.108 6091 | 2.270 | 0.985 8485 | 9.679 401 | 0.103 3122 |
| .221 | .964 5680 | .216 543 | .108 5006 | .271 | .986 2828 | .689 085 | .103 2089 |
| .222 | .965 0023 | .225 764 | .108 3921 | .272 | .986 7171 | .698 779 | .103 1058 |
| .223 | .965 4366 | .234 994 | .108 2838 | .273 | .987 1514 | .708 483 | .103 0027 |
| .224 | .965 8709 | .244 234 | .108 1755 | .274 | .987 5857 | .718 196 | .102 8998 |
| 2.225 | 0.966 3052 | 9.253 483 | 0.108 0674 | 2.275 | 0.988 0199 | 9.727 919 | 0.102 7969 |
| .226 | .966 7395 | .262 741 | .107 9594 | .276 | .988 4542 | .737 652 | .102 6942 |
| .227 | .967 1738 | .272 008 | .107 8515 | .277 | .988 8885 | .747 394 | .102 5915 |
| .228 | .967 6081 | .281 285 | .107 7437 | .278 | .989 3228 | .757 147 | .102 4890 |
| .229 | .968 0424 | .290 571 | .107 6360 | .279 | .989 7571 | .766 909 | .102 3865 |
| 2.230 | 0.968 4767 | 9.299 866 | 0.107 5284 | 2.280 | 0.990 1914 | 9.776 680 | 0.102 2842 |
| .231 | .968 9110 | .309 171 | .107 4210 | .281 | .990 6257 | .786 462 | .102 1820 |
| .232 | .969 3453 | .318 484 | .107 3136 | .282 | .991 0600 | .796 253 | .102 0798 |
| .233 | .969 7796 | .327 808 | .107 2063 | .283 | .991 4943 | .806 054 | .101 9778 |
| .234 | .970 2139 | .337 140 | .107 0992 | .284 | .991 9286 | .815 865 | .101 8759 |
| 2.235 | 0.970 6482 | 9.346 482 | 0.106 9921 | 2.285 | 0.992 3629 | 9.825 686 | 0.101 7741 |
| .236 | .971 0825 | .355 833 | .106 8852 | .286 | .992 7972 | .835 517 | .101 6723 |
| .237 | .971 5168 | .365 194 | .106 7784 | .287 | .993 2315 | .845 357 | .101 5707 |
| .238 | .971 9511 | .374 563 | .106 6716 | .288 | .993 6658 | .855 208 | .101 4692 |
| .239 | .972 3853 | .383 943 | .106 5650 | .289 | .994 1001 | .865 068 | .101 3678 |
| 2.240 | 0.972 8196 | 9.393 331 | 0.106 4585 | 2.290 | 0.994 5344 | 9.874 938 | 0.101 2665 |
| .241 | .973 2539 | .402 729 | .106 3521 | .291 | .994 9687 | .884 818 | .101 1652 |
| .242 | .973 6882 | .412 137 | .106 2458 | .292 | .995 4030 | .894 707 | .101 0641 |
| .243 | .974 1225 | .421 554 | .106 1396 | .293 | .995 8372 | .904 607 | .100 9631 |
| .244 | .974 5568 | .430 980 | .106 0335 | .294 | .996 2715 | .914 517 | .100 8622 |
| 2.245 | 0.974 9911 | 9.440 416 | 0.105 9275 | 2.295 | 0.996 7058 | 9.924 436 | 0.100 7614 |
| .246 | .975 4254 | .449 861 | .105 8217 | .296 | .997 1401 | .934 365 | .100 6607 |
| .247 | .975 8597 | .459 315 | .105 7159 | .297 | .997 5744 | .944 305 | .100 5601 |
| .248 | .976 2940 | .468 779 | .105 6102 | .298 | .998 0087 | .954 254 | .100 4596 |
| .249 | .976 7283 | .478 253 | .105 5047 | .299 | .998 4430 | .964 213 | .100 3592 |
| 2.250 | 0.977 1626 | 9.487 736 | 0.105 3992 | 2.300 | 0.998 8773 | 9.974 182 | 0.100 2588 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.300 | 0.998 8773 | 9.974 182 | 0.100 2588 | 2.350 | 1.020 5920 | 10.485 570 | 0.095 3692 |
| .301 | .999 3116 | .984 162 | .100 1586 | .351 | .021 0263 | .406 061 | .095 2738 |
| .302 | .999 7459 | .994 151 | .100 0585 | .352 | .021 4606 | .506 562 | .095 1786 |
| .303 | 1.000 1802 | 10.004 150 | .099 9585 | .353 | .021 8949 | .517 074 | .095 0835 |
| .304 | .000 6145 | .014 159 | .099 8586 | .354 | .022 3292 | .527 596 | .094 9884 |
| 2.305 | 1.001 0488 | 10.024 178 | 0.099 7588 | 2.355 | 1.022 7635 | 10.538 129 | 0.094 8935 |
| .306 | .001 4831 | .034 207 | .099 6591 | .356 | .023 1978 | .548 672 | .094 7987 |
| .307 | .001 9174 | .044 247 | .099 5595 | .357 | .023 6321 | .559 226 | .094 7039 |
| .308 | .002 3517 | .054 296 | .099 4600 | .358 | .024 0664 | .569 791 | .094 6093 |
| .309 | .002 7860 | .064 355 | .099 3606 | .359 | .024 5007 | .580 366 | .094 5147 |
| 2.310 | 1.003 2203 | 10.074 425 | 0.099 2613 | 2.360 | 1.024 9350 | 10.590 951 | 0.094 4202 |
| .311 | .003 6545 | .084 504 | .099 1620 | .361 | .025 3693 | .601 548 | .094 3259 |
| .312 | .004 0888 | .094 594 | .099 0629 | .362 | .025 8036 | .612 155 | .094 2316 |
| .313 | .004 5231 | .104 693 | .098 9639 | .363 | .026 2379 | .622 772 | .094 1374 |
| .314 | .004 9574 | .114 803 | .098 8650 | .364 | .026 6722 | .633 400 | .094 0433 |
| 2.315 | 1.005 3917 | 10.124 923 | 0.098 7662 | 2.365 | 1.027 1064 | 10.644 039 | 0.093 9493 |
| .316 | .005 8260 | .135 053 | .098 6675 | .366 | .027 5407 | .654 688 | .093 8554 |
| .317 | .006 2603 | .145 193 | .098 5688 | .367 | .027 9750 | .665 348 | .093 7616 |
| .318 | .006 6946 | .155 343 | .098 4703 | .368 | .028 4093 | .676 019 | .093 6679 |
| .319 | .007 1289 | .165 501 | .098 3719 | .369 | .028 8436 | .686 700 | .093 5743 |
| 2.320 | 1.007 5632 | 10.175 674 | 0.098 2736 | 2.370 | 1.029 2779 | 10.697 392 | 0.093 4807 |
| .321 | .007 9975 | .185 855 | .098 1754 | .371 | .029 7122 | .708 095 | .093 3873 |
| .322 | .008 4318 | .196 046 | .098 0772 | .372 | .030 1465 | .718 808 | .093 2940 |
| .323 | .008 8661 | .206 246 | .097 9791 | .373 | .030 5808 | .729 533 | .093 2007 |
| .324 | .009 3004 | .216 456 | .097 8810 | .374 | .031 0151 | .740 268 | .093 1076 |
| 2.325 | 1.009 7347 | 10.226 680 | 0.097 7834 | 2.375 | 1.031 4494 | 10.751 014 | 0.093 0144 |
| .326 | .010 1690 | .236 912 | .097 6857 | .376 | .031 8837 | .761 776 | .092 9215 |
| .327 | .010 6033 | .247 154 | .097 5881 | .377 | .032 3180 | .772 537 | .092 8286 |
| .328 | .011 0376 | .257 406 | .097 4905 | .378 | .032 7523 | .783 315 | .092 7359 |
| .329 | .011 4718 | .267 669 | .097 3929 | .379 | .033 1866 | .794 103 | .092 6432 |
| 2.330 | 1.011 9061 | 10.277 942 | 0.097 2957 | 2.380 | 1.033 6209 | 10.804 903 | 0.092 5506 |
| .331 | .012 3404 | .288 225 | .097 1985 | .381 | .034 0552 | .815 713 | .092 4581 |
| .332 | .012 7747 | .298 518 | .097 1014 | .382 | .034 4895 | .826 534 | .092 3657 |
| .333 | .013 2090 | .308 822 | .097 0043 | .383 | .034 9238 | .837 366 | .092 2733 |
| .334 | .013 6433 | .319 136 | .096 9073 | .384 | .035 3580 | .848 209 | .092 1811 |
| 2.335 | 1.014 0776 | 10.329 460 | 0.096 8105 | 2.385 | 1.035 7923 | 10.859 063 | 0.092 0890 |
| .336 | .014 5119 | .339 795 | .096 7137 | .386 | .036 2266 | .869 927 | .091 9969 |
| .337 | .014 9462 | .350 140 | .096 6171 | .387 | .036 6609 | .880 803 | .091 9050 |
| .338 | .015 3805 | .360 495 | .096 5205 | .388 | .037 0952 | .891 689 | .091 8131 |
| .339 | .015 8148 | .370 861 | .096 4240 | .389 | .037 5295 | .902 586 | .091 7214 |
| 2.340 | 1.016 2491 | 10.381 237 | 0.096 3276 | 2.390 | 1.037 9638 | 10.913 494 | 0.091 6297 |
| .341 | .016 6834 | .391 623 | .096 2314 | .391 | .038 3981 | .924 413 | .091 5381 |
| .342 | .017 1177 | .402 020 | .096 1352 | .392 | .038 8324 | .935 343 | .091 4466 |
| .343 | .017 5520 | .412 427 | .096 0391 | .393 | .039 2667 | .946 284 | .091 3552 |
| .344 | .017 9863 | .422 845 | .095 9431 | .394 | .039 7010 | .957 235 | .091 2639 |
| 2.345 | 1.018 4206 | 10.433 273 | 0.095 8472 | 2.395 | 1.040 1353 | 10.968 198 | 0.091 1727 |
| .346 | .018 8549 | .443 711 | .095 7514 | .396 | .040 5696 | .979 172 | .091 0816 |
| .347 | .019 2891 | .454 160 | .095 6557 | .397 | .041 0039 | .990 156 | .091 0905 |
| .348 | .019 7234 | .464 620 | .095 5601 | .398 | .041 4382 | 11.001 152 | .090 9996 |
| .349 | .020 1577 | .475 089 | .095 4646 | .399 | .041 8725 | .012 159 | .090 9087 |
| 2.350 | 1.020 5920 | 10.485 570 | 0.095 3692 | 2.400 | 1.042 3068 | 11.023 176 | 0.090 8180 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.400 | I.042 3068 | II.023 176 | 0.090 7180 | 2.450 | I.064 0215 | II.588 347 | 0.086 2936 |
| .401 | .042 7411 | .034 205 | .090 6273 | .451 | .064 4558 | .599 941 | .086 2073 |
| .402 | .043 1753 | .045 245 | .090 5367 | .452 | .064 8901 | .611 547 | .086 1212 |
| .403 | .043 6096 | .056 296 | .090 4462 | .453 | .065 3244 | .623 164 | .086 0351 |
| .404 | .044 0439 | .067 357 | .090 3558 | .454 | .065 7587 | .634 793 | .085 9491 |
| 2.405 | I.044 4782 | II.078 430 | 0.090 2655 | 2.455 | I.066 1930 | II.646 434 | 0.085 8632 |
| .406 | .044 9125 | .089 514 | .090 1753 | .456 | .066 6272 | .658 086 | .085 7774 |
| .407 | .045 3468 | .100 609 | .090 0851 | .457 | .067 0615 | .669 759 | .085 6916 |
| .408 | .045 7811 | .111 715 | .089 9951 | .458 | .067 4958 | .681 425 | .085 6060 |
| .409 | .046 2154 | .122 833 | .089 9052 | .459 | .067 9301 | .693 113 | .085 5204 |
| 2.410 | I.046 6497 | II.133 961 | 0.089 8153 | 2.460 | I.068 3644 | II.704 812 | 0.085 4350 |
| .411 | .047 0840 | .145 101 | .089 7255 | .461 | .068 7987 | .716 522 | .085 3496 |
| .412 | .047 5183 | .156 251 | .089 6358 | .462 | .069 2330 | .728 245 | .085 2643 |
| .413 | .047 9526 | .167 413 | .089 5463 | .463 | .069 6673 | .739 979 | .085 1790 |
| .414 | .048 3869 | .178 586 | .089 4568 | .464 | .070 1016 | .751 725 | .085 0939 |
| 2.415 | I.048 8212 | II.189 770 | 0.089 3673 | 2.465 | I.070 5359 | II.763 482 | 0.085 0088 |
| .416 | .049 2555 | .200 966 | .089 2780 | .466 | .070 9702 | .775 252 | .084 9239 |
| .417 | .049 6898 | .212 172 | .089 1888 | .467 | .071 4045 | .787 033 | .084 8390 |
| .418 | .050 1241 | .223 390 | .089 0996 | .468 | .071 8388 | .798 826 | .084 7542 |
| .419 | .050 5584 | .234 619 | .089 0106 | .469 | .072 2731 | .810 630 | .084 6695 |
| 2.420 | I.050 9926 | II.245 859 | 0.088 9216 | 2.470 | I.072 7074 | II.822 447 | 0.084 5849 |
| .421 | .051 4269 | .257 111 | .088 8327 | .471 | .073 1417 | .834 275 | .084 5003 |
| .422 | .051 8612 | .268 374 | .088 7440 | .472 | .073 5760 | .846 115 | .084 4159 |
| .423 | .052 2955 | .279 648 | .088 6553 | .473 | .074 0103 | .857 967 | .084 3315 |
| .424 | .052 7298 | .290 933 | .088 5666 | .474 | .074 4445 | .869 831 | .084 2472 |
| 2.425 | I.053 1641 | II.302 229 | 0.088 4781 | 2.475 | I.074 8788 | II.881 707 | 0.084 1630 |
| .426 | .053 5984 | .313 537 | .088 3897 | .476 | .075 3131 | .893 595 | .084 0789 |
| .427 | .054 0327 | .324 857 | .088 3013 | .477 | .075 7474 | .905 494 | .083 9948 |
| .428 | .054 4670 | .336 187 | .088 2131 | .478 | .076 1817 | .917 406 | .083 9109 |
| .429 | .054 9013 | .347 529 | .088 1249 | .479 | .076 6160 | .929 329 | .083 8270 |
| 2.430 | I.055 3356 | II.358 882 | 0.088 0368 | 2.480 | I.077 0503 | II.941 264 | 0.083 7432 |
| .431 | .055 7699 | .370 247 | .087 9488 | .481 | .077 4846 | .953 212 | .083 6595 |
| .432 | .056 2042 | .381 623 | .087 8609 | .482 | .077 9189 | .965 171 | .083 5759 |
| .433 | .056 6385 | .393 010 | .087 7731 | .483 | .078 3532 | .977 142 | .083 4924 |
| .434 | .057 0728 | .404 409 | .087 6854 | .484 | .078 7875 | .989 125 | .083 4089 |
| 2.435 | I.057 5071 | II.415 819 | 0.087 5977 | 2.485 | I.079 2218 | 12.001 120 | 0.083 3256 |
| .436 | .057 9414 | .427 240 | .087 5102 | .486 | .079 6561 | .013 127 | .083 2423 |
| .437 | .058 3757 | .438 673 | .087 4227 | .487 | .080 0904 | .025 147 | .083 1591 |
| .438 | .058 8099 | .450 118 | .087 3353 | .488 | .080 5247 | .037 178 | .083 0760 |
| .439 | .059 2442 | .461 573 | .087 2481 | .489 | .080 9590 | .049 221 | .082 9929 |
| 2.440 | I.059 6785 | II.473 041 | 0.087 1609 | 2.490 | I.081 3933 | 12.061 276 | 0.082 9100 |
| .441 | .060 1128 | .484 520 | .087 0737 | .491 | .081 8276 | .073 343 | .082 8271 |
| .442 | .060 5471 | .496 010 | .086 9867 | .492 | .082 2618 | .085 423 | .082 7443 |
| .443 | .060 9814 | .507 512 | .086 8998 | .493 | .082 6961 | .097 514 | .082 6616 |
| .444 | .061 4157 | .519 025 | .086 8129 | .494 | .083 1304 | .109 618 | .082 5790 |
| 2.445 | I.061 8500 | II.530 550 | 0.086 7261 | 2.495 | I.083 5647 | 12.121 734 | 0.082 4965 |
| .446 | .062 2843 | .542 086 | .086 6395 | .496 | .083 9990 | .133 861 | .082 4140 |
| .447 | .062 7186 | .553 634 | .086 5529 | .497 | .084 4333 | .146 001 | .082 3316 |
| .448 | .063 1529 | .565 193 | .086 4663 | .498 | .084 8676 | .158 153 | .082 2493 |
| .449 | .063 5872 | .576 764 | .086 3799 | .499 | .085 3019 | .170 318 | .082 1671 |
| 2.450 | I.064 0215 | II.588 347 | 0.086 2936 | 2.500 | I.085 7362 | 12.182 494 | 0.082 0850 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.500 | 1.085 7362 | 12.182 404 | 0.082 0850 | 2.550 | 1.107 4509 | 12.807 104 | 0.078 0817 |
| .501 | .086 1705 | .194 683 | .082 0030 | .551 | .107 8852 | .810 917 | .078 0036 |
| .502 | .086 6048 | .206 883 | .081 9210 | .552 | .108 3195 | .832 744 | .077 9257 |
| .503 | .087 0391 | .219 096 | .081 8391 | .553 | .108 7538 | .845 583 | .077 8478 |
| .504 | .087 4734 | .231 322 | .081 7573 | .554 | .109 1881 | .858 435 | .077 7700 |
| 2.505 | 1.087 9077 | 12.243 559 | 0.081 6756 | 2.555 | 1.109 6224 | 12.871 300 | 0.077 6922 |
| .506 | .088 3420 | .255 809 | .081 5940 | .556 | .110 0567 | .884 177 | .077 6146 |
| .507 | .088 7763 | .268 071 | .081 5124 | .557 | .110 4910 | .897 068 | .077 5370 |
| .508 | .089 2106 | .280 345 | .081 4309 | .558 | .110 9253 | .909 972 | .077 4595 |
| .509 | .089 6449 | .292 631 | .081 3495 | .559 | .111 3596 | .922 888 | .077 3821 |
| 2.510 | 1.090 0791 | 12.304 930 | 0.081 2682 | 2.560 | 1.111 7939 | 12.935 817 | 0.077 3047 |
| .511 | .090 5134 | .317 241 | .081 1870 | .561 | .112 2282 | .948 700 | .077 2275 |
| .512 | .090 9477 | .329 565 | .081 1059 | .562 | .112 6625 | .961 715 | .077 1503 |
| .513 | .091 3820 | .341 900 | .081 0248 | .563 | .113 0968 | .974 683 | .077 0732 |
| .514 | .091 8163 | .354 248 | .080 9438 | .564 | .113 5311 | .987 664 | .076 9961 |
| 2.515 | 1.092 2506 | 12.366 609 | 0.080 8629 | 2.565 | 1.113 9653 | 13.000 658 | 0.076 9192 |
| .516 | .092 6849 | .378 982 | .080 7821 | .566 | .114 3996 | .013 666 | .076 8423 |
| .517 | .093 1192 | .391 307 | .080 7013 | .567 | .114 8339 | .026 686 | .076 7655 |
| .518 | .093 5535 | .403 704 | .080 6207 | .568 | .115 2682 | .039 719 | .076 6888 |
| .519 | .093 9878 | .416 174 | .080 5401 | .569 | .115 7025 | .052 765 | .076 6121 |
| 2.520 | 1.094 4221 | 12.428 597 | 0.080 4596 | 2.570 | 1.116 1368 | 13.065 824 | 0.076 5355 |
| .521 | .094 8564 | .441 032 | .080 3792 | .571 | .116 5711 | .078 807 | .076 4590 |
| .522 | .095 2907 | .453 479 | .080 2988 | .572 | .117 0054 | .091 982 | .076 3826 |
| .523 | .095 7250 | .465 938 | .080 2186 | .573 | .117 4397 | .105 081 | .076 3063 |
| .524 | .096 1593 | .478 411 | .080 1384 | .574 | .117 8740 | .118 192 | .076 2300 |
| 2.525 | 1.096 5936 | 12.490 895 | 0.080 0583 | 2.575 | 1.118 3083 | 13.131 317 | 0.076 1538 |
| .526 | .097 0279 | .503 392 | .079 9783 | .576 | .118 7426 | .144 455 | .076 0777 |
| .527 | .097 4622 | .515 902 | .079 8984 | .577 | .119 1769 | .157 606 | .076 0017 |
| .528 | .097 8965 | .528 424 | .079 8185 | .578 | .119 6112 | .170 770 | .075 9257 |
| .529 | .098 3307 | .540 959 | .079 7387 | .579 | .120 0455 | .183 948 | .075 8498 |
| 2.530 | 1.098 7650 | 12.553 506 | 0.079 6590 | 2.580 | 1.120 4798 | 13.197 138 | 0.075 7740 |
| .531 | .099 1993 | .566 066 | .079 5794 | .581 | .120 9141 | .210 342 | .075 6983 |
| .532 | .099 6336 | .578 638 | .079 4999 | .582 | .121 3484 | .223 559 | .075 6226 |
| .533 | .100 0679 | .591 223 | .079 4204 | .583 | .121 7826 | .236 789 | .075 5470 |
| .534 | .100 5022 | .603 821 | .079 3410 | .584 | .122 2169 | .250 032 | .075 4715 |
| 2.535 | 1.100 9365 | 12.616 431 | 0.079 2617 | 2.585 | 1.122 6512 | 13.263 289 | 0.075 3961 |
| .536 | .101 3708 | .629 054 | .079 1825 | .586 | .123 0855 | .276 559 | .075 3207 |
| .537 | .101 8051 | .641 689 | .079 1034 | .587 | .123 5198 | .289 842 | .075 2454 |
| .538 | .102 2394 | .654 337 | .079 0243 | .588 | .123 9541 | .303 139 | .075 1702 |
| .539 | .102 6737 | .666 998 | .078 9453 | .589 | .124 3884 | .316 449 | .075 0951 |
| 2.540 | 1.103 1080 | 12.679 671 | 0.078 8664 | 2.590 | 1.124 8227 | 13.329 772 | 0.075 0200 |
| .541 | .103 5423 | .692 357 | .078 7876 | .591 | .125 2570 | .343 108 | .074 9451 |
| .542 | .103 9766 | .705 056 | .078 7088 | .592 | .125 6913 | .356 458 | .074 8701 |
| .543 | .104 4109 | .717 767 | .078 6302 | .593 | .126 1256 | .369 821 | .074 7953 |
| .544 | .104 8452 | .730 491 | .078 5516 | .594 | .126 5599 | .383 198 | .074 7206 |
| 2.545 | 1.105 2795 | 12.743 228 | 0.078 4731 | 2.595 | 1.126 9942 | 13.396 587 | 0.074 6459 |
| .546 | .105 7138 | .755 978 | .078 3946 | .596 | .127 4285 | .409 991 | .074 5713 |
| .547 | .106 1480 | .768 740 | .078 3163 | .597 | .127 8628 | .423 407 | .074 4967 |
| .548 | .106 5823 | .781 515 | .078 2380 | .598 | .128 2971 | .436 838 | .074 4223 |
| .549 | .107 0166 | .794 303 | .078 1598 | .599 | .128 7314 | .450 281 | .074 3479 |
| 2.550 | 1.107 4509 | 12.807 104 | 0.078 0817 | 2.600 | 1.129 1657 | 13.463 738 | 0.074 2736 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.600 | I. 129 1657 | 13.463 738 | 0.074 2736 | 2.650 | I. 150 8804 | 14.154 039 | 0.070 6512 |
| .601 | .129 5999 | .477 208 | .074 1993 | .651 | .151 3147 | .168 200 | .070 5806 |
| .602 | .130 0342 | .490 692 | .074 1252 | .652 | .151 7490 | .182 375 | .070 5101 |
| .603 | .130 4685 | .504 190 | .074 0511 | .653 | .152 1833 | .196 565 | .070 4396 |
| .604 | .130 9028 | .517 701 | .073 9771 | .654 | .152 6176 | .210 768 | .070 3692 |
| 2.605 | I. 131 3371 | 13.531 225 | 0.073 9031 | 2.655 | I. 153 0518 | 14.224 986 | 0.070 2988 |
| .606 | .131 7714 | .544 763 | .073 8293 | .656 | .153 4861 | .239 218 | .070 2286 |
| .607 | .132 2057 | .558 315 | .073 7555 | .657 | .153 9204 | .253 464 | .070 1584 |
| .608 | .132 6400 | .571 886 | .073 6818 | .658 | .154 3547 | .267 725 | .070 0883 |
| .609 | .133 0743 | .585 459 | .073 6081 | .659 | .154 7890 | .282 000 | .070 0182 |
| 2.610 | I. 133 5086 | 13.599 051 | 0.073 5345 | 2.660 | I. 155 2233 | 14.296 289 | 0.069 9482 |
| .611 | .133 9429 | .612 657 | .073 4610 | .661 | .155 6576 | .310 593 | .069 8783 |
| .612 | .134 3772 | .626 276 | .073 3876 | .662 | .156 0919 | .324 910 | .069 8085 |
| .613 | .134 8115 | .639 909 | .073 3143 | .663 | .156 5262 | .339 242 | .069 7387 |
| .614 | .135 2458 | .653 556 | .073 2410 | .664 | .156 9605 | .353 589 | .069 6690 |
| 2.615 | I. 135 6801 | 13.667 216 | 0.073 1678 | 2.665 | I. 157 3948 | 14.367 950 | 0.069 5994 |
| .616 | .136 1144 | .680 890 | .073 0947 | .666 | .157 8291 | .382 325 | .069 5298 |
| .617 | .136 5487 | .694 578 | .073 0216 | .667 | .158 2634 | .396 714 | .069 4603 |
| .618 | .136 9830 | .708 280 | .072 9486 | .668 | .158 6977 | .411 118 | .069 3909 |
| .619 | .137 4172 | .721 995 | .072 8757 | .669 | .159 1320 | .425 536 | .069 3215 |
| 2.620 | I. 137 8515 | 13.735 724 | 0.072 8029 | 2.670 | I. 159 5663 | 14.439 969 | 0.069 2522 |
| .621 | .138 2858 | .749 466 | .072 7301 | .671 | .160 0006 | .454 416 | .069 1830 |
| .622 | .138 7201 | .763 222 | .072 6574 | .672 | .160 4349 | .468 878 | .069 1139 |
| .623 | .139 1544 | .776 993 | .072 5848 | .673 | .160 8692 | .483 354 | .069 0448 |
| .624 | .139 5887 | .790 776 | .072 5122 | .674 | .161 3034 | .497 845 | .068 9758 |
| 2.625 | I. 140 0230 | 13.804 574 | 0.072 4398 | 2.675 | I. 161 7377 | 14.512 350 | 0.068 9068 |
| .626 | .140 4572 | .818 386 | .072 3674 | .676 | .162 1720 | .526 869 | .068 8380 |
| .627 | .140 8916 | .832 211 | .072 2950 | .677 | .162 6063 | .541 404 | .068 7692 |
| .628 | .141 3259 | .846 050 | .072 2228 | .678 | .163 0406 | .555 952 | .068 7004 |
| .629 | .141 7602 | .859 903 | .072 1506 | .679 | .163 4749 | .570 515 | .068 6318 |
| 2.630 | I. 142 1945 | 13.873 770 | 0.072 0785 | 2.680 | I. 163 9092 | 14.585 093 | 0.068 5632 |
| .631 | .142 6288 | .887 051 | .072 0064 | .681 | .164 3435 | .599 686 | .068 4946 |
| .632 | .143 0631 | .901 545 | .071 9344 | .682 | .164 7778 | .614 293 | .068 4262 |
| .633 | .143 4974 | .915 454 | .071 8626 | .683 | .165 2121 | .628 914 | .068 3578 |
| .634 | .143 9317 | .929 376 | .071 7907 | .684 | .165 6464 | .643 550 | .068 2894 |
| 2.635 | I. 144 3660 | 13.943 312 | 0.071 7190 | 2.685 | I. 166 0807 | 14.658 201 | 0.068 2212 |
| .636 | .144 8003 | .957 263 | .071 6473 | .686 | .166 5150 | .672 867 | .068 1530 |
| .637 | .145 2345 | .971 227 | .071 5757 | .687 | .166 9493 | .687 547 | .068 0849 |
| .638 | .145 6688 | .985 205 | .071 5041 | .688 | .167 3836 | .702 242 | .068 0168 |
| .639 | .146 1031 | .999 197 | .071 4327 | .689 | .167 8179 | .716 952 | .067 9489 |
| 2.640 | I. 146 5374 | 14.013 204 | 0.071 3613 | 2.690 | I. 168 2522 | 14.731 676 | 0.067 8809 |
| .641 | .146 9717 | .027 224 | .071 2899 | .691 | .168 6865 | .746 415 | .067 8131 |
| .642 | .147 4060 | .041 258 | .071 2187 | .692 | .169 1207 | .761 169 | .067 7453 |
| .643 | .147 8403 | .055 306 | .071 1475 | .693 | .169 5550 | .775 937 | .067 6776 |
| .644 | .148 2746 | .069 369 | .071 0764 | .694 | .169 9893 | .790 721 | .067 6100 |
| 2.645 | I. 148 7089 | 14.083 445 | 0.071 0054 | 2.695 | I. 170 4236 | 14.805 519 | 0.067 5424 |
| .646 | .149 1432 | .097 536 | .070 9344 | .696 | .170 8579 | .820 332 | .067 4749 |
| .647 | .149 5775 | .111 640 | .070 8635 | .697 | .171 2922 | .835 159 | .067 4074 |
| .648 | .150 0118 | .125 759 | .070 7927 | .698 | .171 7265 | .850 002 | .067 3401 |
| .649 | .150 4461 | .139 892 | .070 7219 | .699 | .172 1608 | .864 859 | .067 2728 |
| 2.650 | I. 150 8804 | 14.154 039 | 0.070 6512 | 2.700 | I. 172 5951 | 14.879 732 | 0.067 2055 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.700 | 1.172 5951 | 14.879 732 | 0.067 2055 | 2.750 | 1.194 3098 | 15.642 632 | 0.063 9279 |
| .701 | .173 0294 | .894 619 | .067 1383 | .751 | .194 7441 | .658 282 | .063 8640 |
| .702 | .173 4637 | .909 521 | .067 0712 | .752 | .195 1784 | .673 948 | .063 8001 |
| .703 | .173 8980 | .924 438 | .067 0042 | .753 | .195 6127 | .689 630 | .063 7364 |
| .704 | .174 3323 | .939 370 | .066 9372 | .754 | .196 0470 | .705 328 | .063 6727 |
| 2.705 | 1.174 7666 | 14.954 317 | 0.066 8703 | 2.755 | 1.196 4813 | 15.721 041 | 0.063 6090 |
| .706 | .175 2009 | .969 278 | .066 8035 | .756 | .196 9156 | .736 770 | .063 5454 |
| .707 | .175 6352 | .984 255 | .066 7367 | .757 | .197 3499 | .752 514 | .063 4819 |
| .708 | .176 0695 | .999 247 | .066 6700 | .758 | .197 7842 | .768 275 | .063 4185 |
| .709 | .176 5038 | 15.014 254 | .066 6039 | .759 | .198 2185 | .784 051 | .063 3551 |
| 2.710 | 1.176 9380 | 15.029 275 | 0.066 5368 | 2.760 | 1.198 6528 | 15.799 843 | 0.063 2918 |
| .711 | .177 3723 | .044 312 | .066 4703 | .761 | .199 0871 | .815 651 | .063 2285 |
| .712 | .177 8066 | .059 364 | .066 4039 | .762 | .199 5214 | .831 474 | .063 1653 |
| .713 | .178 2409 | .074 431 | .066 3375 | .763 | .199 9557 | .847 314 | .063 1022 |
| .714 | .178 6752 | .089 513 | .066 2712 | .764 | .200 3899 | .863 169 | .063 0391 |
| 2.715 | 1.179 1095 | 15.104 610 | 0.066 2050 | 2.765 | 1.200 8242 | 15.879 040 | 0.062 9761 |
| .716 | .179 5438 | .119 722 | .066 1388 | .766 | .201 2585 | .894 927 | .062 9132 |
| .717 | .179 9781 | .134 850 | .066 0727 | .767 | .201 6928 | .910 830 | .062 8503 |
| .718 | .180 4124 | .149 992 | .066 0066 | .768 | .202 1271 | .926 749 | .062 7875 |
| .719 | .180 8467 | .165 149 | .065 9407 | .769 | .202 5614 | .942 683 | .062 7247 |
| 2.720 | 1.181 2810 | 15.180 322 | 0.065 8748 | 2.770 | 1.202 9957 | 15.958 634 | 0.062 6620 |
| .721 | .181 7153 | .195 510 | .065 8089 | .771 | .203 4300 | .974 601 | .062 5994 |
| .722 | .182 1496 | .210 713 | .065 7431 | .772 | .203 8643 | .990 583 | .062 5368 |
| .723 | .182 5839 | .225 932 | .065 6774 | .773 | .204 2986 | 16.006 582 | .062 4743 |
| .724 | .183 0182 | .241 165 | .065 6118 | .774 | .204 7329 | .022 596 | .062 4119 |
| 2.725 | 1.183 4525 | 15.256 414 | 0.065 5462 | 2.775 | 1.205 1672 | 16.038 627 | 0.062 3495 |
| .726 | .183 8868 | .271 678 | .065 4807 | .776 | .205 6015 | .054 674 | .062 2872 |
| .727 | .184 3211 | .286 957 | .065 4152 | .777 | .206 0358 | .070 736 | .062 2249 |
| .728 | .184 7553 | .302 252 | .065 3499 | .778 | .206 4701 | .086 815 | .062 1627 |
| .729 | .185 1896 | .317 562 | .065 2845 | .779 | .206 9044 | .102 910 | .062 1006 |
| 2.730 | 1.185 6239 | 15.332 887 | 0.065 2193 | 2.780 | 1.207 3387 | 16.119 021 | 0.062 0385 |
| .731 | .186 0582 | .348 228 | .065 1541 | .781 | .207 7730 | .135 148 | .061 9765 |
| .732 | .186 4925 | .363 583 | .065 0890 | .782 | .208 2072 | .151 291 | .061 9146 |
| .733 | .186 9268 | .378 955 | .065 0239 | .783 | .208 6415 | .167 451 | .061 8527 |
| .734 | .187 3611 | .394 341 | .064 9589 | .784 | .209 0758 | .183 626 | .061 7908 |
| 2.735 | 1.187 7954 | 15.409 743 | 0.064 8940 | 2.785 | 1.209 5101 | 16.199 818 | 0.061 7291 |
| .736 | .188 2297 | .425 161 | .064 8291 | .786 | .209 9444 | .216 026 | .061 6674 |
| .737 | .188 6640 | .440 594 | .064 7643 | .787 | .210 3787 | .232 250 | .061 6058 |
| .738 | .189 0983 | .456 042 | .064 6996 | .788 | .210 8130 | .248 490 | .061 5442 |
| .739 | .189 5326 | .471 506 | .064 6349 | .789 | .211 2473 | .264 747 | .061 4827 |
| 2.740 | 1.189 9669 | 15.486 985 | 0.064 5703 | 2.790 | 1.211 6816 | 16.281 020 | 0.061 4212 |
| .741 | .190 4012 | .502 480 | .064 5058 | .791 | .212 1159 | .297 309 | .061 3598 |
| .742 | .190 8355 | .517 990 | .064 4413 | .792 | .212 5502 | .313 614 | .061 2985 |
| .743 | .191 2698 | .533 516 | .064 3769 | .793 | .212 9845 | .329 936 | .061 2372 |
| .744 | .191 7041 | .549 057 | .064 3126 | .794 | .213 4188 | .346 274 | .061 1760 |
| 2.745 | 1.192 1384 | 15.564 614 | 0.064 2483 | 2.795 | 1.213 8531 | 16.362 629 | 0.061 1149 |
| .746 | .192 5726 | .580 186 | .064 1841 | .796 | .214 2874 | .379 000 | .061 0538 |
| .747 | .193 0069 | .595 774 | .064 1199 | .797 | .214 7217 | .395 387 | .060 9928 |
| .748 | .193 4412 | .611 378 | .064 0558 | .798 | .215 1560 | .411 790 | .060 9318 |
| .749 | .193 8755 | .626 997 | .063 9918 | .799 | .215 5903 | .428 210 | .060 8709 |
| 2.750 | 1.194 3098 | 15.642 632 | 0.063 9279 | 2.800 | 1.216 0245 | 16.444 647 | 0.060 8101 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.800 | 1.216 0245 | 16.444 647 | 0.060 8101 | 2.850 | 1.237 7393 | 17.287 782 | 0.057 8443 |
| .801 | .216 4588 | .461 100 | .060 7493 | .851 | .238 1736 | .305 078 | .057 7865 |
| .802 | .216 8931 | .477 569 | .060 6886 | .852 | .238 6079 | .322 392 | .057 7287 |
| .803 | .217 3274 | .494 055 | .060 6279 | .853 | .239 0422 | .339 723 | .057 6710 |
| .804 | .217 7617 | .510 557 | .060 5673 | .854 | .239 4765 | .357 071 | .057 6134 |
| 2.805 | 1.218 1960 | 16.527 076 | 0.060 5068 | 2.855 | 1.239 9107 | 17.374 437 | 0.057 5558 |
| .806 | .218 6303 | .543 611 | .060 4463 | .856 | .240 3450 | .391 820 | .057 4983 |
| .807 | .219 0646 | .560 163 | .060 3859 | .857 | .240 7793 | .409 221 | .057 4408 |
| .808 | .219 4989 | .576 732 | .060 3255 | .858 | .241 2136 | .426 639 | .057 3834 |
| .809 | .219 9332 | .593 317 | .060 2652 | .859 | .241 6479 | .444 074 | .057 3261 |
| 2.810 | 1.220 3675 | 16.609 918 | 0.060 2050 | 2.860 | 1.242 0822 | 17.461 527 | 0.057 2688 |
| .811 | .220 8018 | .626 536 | .060 1448 | .861 | .242 5165 | .478 997 | .057 2115 |
| .812 | .221 2361 | .643 171 | .060 0847 | .862 | .242 9508 | .496 485 | .057 1543 |
| .813 | .221 6704 | .659 823 | .060 0246 | .863 | .243 3851 | .513 990 | .057 0972 |
| .814 | .222 1047 | .676 491 | .059 9647 | .864 | .243 8194 | .531 513 | .057 0401 |
| 2.815 | 1.222 5390 | 16.693 176 | 0.059 9047 | 2.865 | 1.244 2537 | 17.549 053 | 0.056 9831 |
| .816 | .222 9733 | .709 877 | .059 8448 | .866 | .244 6880 | .566 611 | .056 9262 |
| .817 | .223 4076 | .726 596 | .059 7850 | .867 | .245 1223 | .584 186 | .056 8693 |
| .818 | .223 8418 | .743 331 | .059 7253 | .868 | .245 5566 | .601 779 | .056 8124 |
| .819 | .224 2761 | .760 082 | .059 6656 | .869 | .245 9909 | .619 390 | .056 7557 |
| 2.820 | 1.224 7104 | 16.776 851 | 0.059 6059 | 2.870 | 1.246 4252 | 17.637 018 | 0.056 6989 |
| .821 | .225 1447 | .793 636 | .059 5464 | .871 | .246 8595 | .654 664 | .056 6423 |
| .822 | .225 5790 | .810 438 | .059 4868 | .872 | .247 2938 | .672 328 | .056 5856 |
| .823 | .226 0133 | .827 257 | .059 4274 | .873 | .247 7280 | .690 009 | .056 5291 |
| .824 | .226 4476 | .844 092 | .059 3680 | .874 | .248 1623 | .707 708 | .056 4726 |
| 2.825 | 1.226 8819 | 16.860 945 | 0.059 3087 | 2.875 | 1.248 5966 | 17.725 424 | 0.056 4161 |
| .826 | .227 3162 | .877 814 | .059 2494 | .876 | .249 0309 | .743 158 | .056 3598 |
| .827 | .227 7505 | .894 701 | .059 1902 | .877 | .249 4652 | .760 910 | .056 3034 |
| .828 | .228 1848 | .911 604 | .059 1310 | .878 | .249 8995 | .778 680 | .056 2471 |
| .829 | .228 6191 | .928 524 | .059 0719 | .879 | .250 3338 | .796 468 | .056 1909 |
| 2.830 | 1.229 0534 | 16.945 461 | 0.059 0129 | 2.880 | 1.250 7681 | 17.814 273 | 0.056 1348 |
| .831 | .229 4877 | .962 415 | .058 9539 | .881 | .251 2024 | .832 096 | .056 0787 |
| .832 | .229 9220 | .979 386 | .058 8949 | .882 | .251 6367 | .849 937 | .056 0226 |
| .833 | .230 3563 | .996 374 | .058 8361 | .883 | .252 0710 | .867 796 | .055 9666 |
| .834 | .230 7906 | 17.013 378 | .058 7773 | .884 | .252 5053 | .885 673 | .055 9107 |
| 2.835 | 1.231 2249 | 17.030 400 | 0.058 7185 | 2.885 | 1.252 9396 | 17.903 568 | 0.055 8548 |
| .836 | .231 6592 | .047 439 | .058 6598 | .886 | .253 3739 | .921 480 | .055 7990 |
| .837 | .232 0934 | .064 495 | .058 6012 | .887 | .253 8082 | .939 411 | .055 7432 |
| .838 | .232 5277 | .081 568 | .058 5426 | .888 | .254 2425 | .957 359 | .055 6875 |
| .839 | .232 9620 | .098 658 | .058 4841 | .889 | .254 6768 | .975 325 | .055 6318 |
| 2.840 | 1.233 3963 | 17.115 766 | 0.058 4257 | 2.890 | 1.255 1111 | 17.993 310 | 0.055 5762 |
| .841 | .233 8306 | .132 890 | .058 3673 | .891 | .255 5453 | 18.011 312 | .055 5207 |
| .842 | .234 2649 | .150 031 | .058 3089 | .892 | .255 9796 | .029 332 | .055 4652 |
| .843 | .234 6992 | .167 190 | .058 2507 | .893 | .256 4139 | .047 371 | .055 4097 |
| .844 | .235 1335 | .184 366 | .058 1924 | .894 | .256 8482 | .065 427 | .055 3544 |
| 2.845 | 1.235 5678 | 17.201 559 | 0.058 1343 | 2.895 | 1.257 2825 | 18.083 501 | 0.055 2990 |
| .846 | .236 0021 | .218 769 | .058 0762 | .896 | .257 7168 | .101 594 | .055 2438 |
| .847 | .236 4364 | .235 996 | .058 0181 | .897 | .258 1511 | .119 705 | .055 1885 |
| .848 | .236 8707 | .253 241 | .057 9601 | .898 | .258 5854 | .137 833 | .055 1334 |
| .849 | .237 3050 | .270 503 | .057 9022 | .899 | .259 0197 | .155 980 | .055 0783 |
| 2.850 | 1.237 7393 | 17.287 782 | 0.057 8443 | 2.900 | 1.259 4540 | 18.174 145 | 0.055 0232 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 2.900 | 1.259 4540 | 18.174 145 | 0.055 0232 | 2.950 | 1.281 1687 | 19.105 954 | 0.052 3397 |
| .901 | .259 8883 | .192 329 | .054 9682 | .951 | .281 6030 | .125 069 | .052 2874 |
| .902 | .260 3226 | .210 530 | .054 9133 | .952 | .282 0373 | .144 204 | .052 2351 |
| .903 | .260 7569 | .228 750 | .054 8584 | .953 | .282 4716 | .163 358 | .052 1829 |
| .904 | .261 1912 | .246 988 | .054 8036 | .954 | .282 9059 | .182 531 | .052 1308 |
| 2.905 | 1.261 6255 | 18.265 244 | 0.054 7488 | 2.955 | 1.283 3402 | 19.201 723 | 0.052 0787 |
| .906 | .262 0598 | .283 518 | .054 6941 | .956 | .283 7745 | .220 934 | .052 0266 |
| .907 | .262 4941 | .301 811 | .054 6394 | .957 | .284 2088 | .240 165 | .051 9746 |
| .908 | .262 9284 | .320 122 | .054 5848 | .958 | .284 6431 | .259 414 | .051 9227 |
| .909 | .263 3626 | .338 451 | .051 5302 | .959 | .285 0774 | .278 683 | .051 8708 |
| 2.910 | 1.263 7969 | 18.356 799 | 0.054 4757 | 2.960 | 1.285 5117 | 19.297 972 | 0.051 8189 |
| .911 | .264 2312 | .375 165 | .054 4213 | .961 | .285 9460 | .317 279 | .051 7671 |
| .912 | .264 6655 | .393 549 | .054 3669 | .962 | .286 3803 | .336 606 | .051 7154 |
| .913 | .265 0998 | .411 952 | .054 3125 | .963 | .286 8145 | .355 953 | .051 6637 |
| .914 | .265 5341 | .430 373 | .054 2583 | .964 | .287 2488 | .375 318 | .051 6121 |
| 2.915 | 1.265 9684 | 18.448 812 | 0.054 2040 | 2.965 | 1.287 6831 | 19.394 703 | 0.051 5605 |
| .916 | .266 4027 | .467 270 | .054 1499 | .966 | .288 1174 | .414 108 | .051 5089 |
| .917 | .266 8370 | .485 747 | .054 0957 | .967 | .288 5517 | .433 531 | .051 4575 |
| .918 | .267 2713 | .504 242 | .054 0417 | .968 | .288 9860 | .452 975 | .051 4060 |
| .919 | .267 7056 | .522 755 | .053 9876 | .969 | .289 4203 | .472 437 | .051 3546 |
| 2.920 | 1.268 1399 | 18.541 287 | 0.053 9337 | 2.970 | 1.289 8546 | 19.491 920 | 0.051 3033 |
| .921 | .268 5742 | .559 838 | .053 8798 | .971 | .290 2889 | .511 421 | .051 2520 |
| .922 | .269 0085 | .578 407 | .053 8259 | .972 | .290 7232 | .530 942 | .051 2008 |
| .923 | .269 4428 | .596 995 | .053 7721 | .973 | .291 1575 | .550 483 | .051 1496 |
| .924 | .269 8771 | .615 601 | .053 7184 | .974 | .291 5918 | .570 043 | .051 0985 |
| 2.925 | 1.270 3114 | 18.634 226 | 0.053 6647 | 2.975 | 1.292 0261 | 19.589 623 | 0.051 0474 |
| .926 | .270 7457 | .652 870 | .053 6111 | .976 | .292 4604 | .600 223 | .050 9964 |
| .927 | .271 1799 | .671 532 | .053 5575 | .977 | .292 8947 | .628 842 | .050 9454 |
| .928 | .271 6142 | .690 213 | .053 5039 | .978 | .293 3290 | .648 480 | .050 8945 |
| .929 | .272 0485 | .708 912 | .053 4505 | .979 | .293 7633 | .668 139 | .050 8437 |
| 2.930 | 1.272 4828 | 18.727 631 | 0.053 3970 | 2.980 | 1.294 1976 | 19.687 817 | 0.050 7928 |
| .931 | .272 9171 | .746 368 | .053 3437 | .981 | .294 6319 | .707 514 | .050 7421 |
| .932 | .273 3514 | .765 123 | .053 2904 | .982 | .295 0661 | .727 232 | .050 6913 |
| .933 | .273 7857 | .783 898 | .053 2371 | .983 | .295 5004 | .746 969 | .050 6407 |
| .934 | .274 2200 | .802 691 | .053 1839 | .984 | .295 9347 | .766 726 | .050 5901 |
| 2.935 | 1.274 6543 | 18.821 503 | 0.053 1307 | 2.985 | 1.296 3690 | 19.786 502 | 0.050 5395 |
| .936 | .275 0886 | .840 334 | .053 0776 | .986 | .296 8033 | .806 299 | .050 4890 |
| .937 | .275 5229 | .859 184 | .053 0246 | .987 | .297 2376 | .826 115 | .050 4385 |
| .938 | .275 9572 | .878 052 | .052 9716 | .988 | .297 6719 | .845 951 | .050 3881 |
| .939 | .276 3915 | .896 940 | .052 9186 | .989 | .298 1062 | .865 807 | .050 3377 |
| 2.940 | 1.276 8258 | 18.915 846 | 0.052 8657 | 2.990 | 1.298 5405 | 19.885 682 | 0.050 2874 |
| .941 | .277 2601 | .934 772 | .052 8129 | .991 | .298 9748 | .905 578 | .050 2372 |
| .942 | .277 6944 | .953 716 | .052 7601 | .992 | .299 4091 | .925 494 | .050 1870 |
| .943 | .278 1287 | .972 679 | .052 7074 | .993 | .299 8434 | .945 429 | .050 1368 |
| .944 | .278 5630 | .991 661 | .052 6547 | .994 | .300 2777 | .965 385 | .050 0867 |
| 2.945 | 1.278 9972 | 19.010 662 | 0.052 6021 | 2.995 | 1.300 7120 | 19.985 360 | 0.050 0366 |
| .946 | .279 4315 | .029 683 | .052 5495 | .996 | .301 1463 | 20.005 355 | .049 9866 |
| .947 | .279 8658 | .048 722 | .052 4970 | .997 | .301 5806 | .025 371 | .049 9367 |
| .948 | .280 3001 | .067 780 | .052 4445 | .998 | .302 0149 | .045 406 | .049 8867 |
| .949 | .280 7344 | .086 857 | .052 3921 | .999 | .302 4492 | .065 461 | .049 8369 |
| 2.950 | 1.281 1687 | 19.105 954 | 0.052 3397 | 3.000 | 1.302 8834 | 20.085 537 | 0.049 7871 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|------------|------------|
| 3.00 | 1.302 8834 | 20.085 537 | 0.049 7871 | 3.50 | 1.520 0307 | 33.115 452 | 0.030 1974 |
| .01 | .307 2264 | .287 400 | .049 2917 | .51 | .524 3736 | .448 268 | .029 8969 |
| .02 | .311 5693 | .491 202 | .048 8012 | .52 | .528 7166 | .784 420 | .029 5904 |
| .03 | .315 9123 | .697 233 | .048 3156 | .53 | .533 0595 | 34.123 968 | .029 3049 |
| .04 | .320 2552 | .905 243 | .047 8349 | .54 | .537 4025 | .466 919 | .029 0133 |
| 3.05 | 1.324 5982 | 21.115 344 | 0.047 3589 | 3.55 | 1.541 7454 | 34.813 318 | 0.028 7246 |
| .06 | .328 9411 | .327 557 | .046 8877 | .56 | .546 0884 | 35.163 197 | .028 4388 |
| .07 | .333 2841 | .541 903 | .046 4212 | .57 | .550 4313 | .516 593 | .028 1559 |
| .08 | .337 6270 | .758 402 | .045 9593 | .58 | .554 7742 | .873 541 | .027 8757 |
| .09 | .341 9699 | .977 078 | .045 5020 | .59 | .559 1172 | 36.234 076 | .027 5983 |
| 3.10 | 1.346 3129 | 22.197 951 | 0.045 0492 | 3.60 | 1.563 4601 | 36.598 235 | 0.027 3237 |
| .11 | .350 6558 | .421 044 | .044 6010 | .61 | .567 8031 | .966 053 | .027 0518 |
| .12 | .354 9988 | .646 380 | .044 1572 | .62 | .572 1460 | 37.337 568 | .026 7827 |
| .13 | .359 3417 | .873 980 | .043 7178 | .63 | .576 4890 | .712 817 | .026 5162 |
| .14 | .363 6847 | 23.103 867 | .043 2828 | .64 | .580 8319 | 38.091 837 | .026 2523 |
| 3.15 | 1.368 0276 | 23.336 065 | 0.042 8521 | 3.65 | 1.585 1749 | 38.474 666 | 0.025 9911 |
| .16 | .372 3706 | .570 596 | .042 4257 | .66 | .589 5178 | .861 343 | .025 7325 |
| .17 | .376 7135 | .807 484 | .042 0036 | .67 | .593 8607 | 39.251 906 | .025 4765 |
| .18 | .381 0565 | 24.046 754 | .041 5857 | .68 | .598 2037 | .646 394 | .025 2230 |
| .19 | .385 3994 | .288 427 | .041 1719 | .69 | .602 5466 | 40.044 847 | .024 9720 |
| 3.20 | 1.389 7423 | 24.532 530 | 0.040 7622 | 3.70 | 1.606 8896 | 40.447 304 | 0.024 7235 |
| .21 | .394 0853 | .779 086 | .040 3566 | .71 | .611 2325 | .853 807 | .024 4775 |
| .22 | .398 4282 | 25.028 120 | .039 9551 | .72 | .615 5755 | 41.264 394 | .024 2340 |
| .23 | .402 7712 | .279 657 | .039 5575 | .73 | .619 9184 | .679 108 | .023 9928 |
| .24 | .407 1141 | .533 722 | .039 1639 | .74 | .624 2614 | 42.097 990 | .023 7541 |
| 3.25 | 1.411 4571 | 25.790 340 | 0.038 7742 | 3.75 | 1.628 6043 | 42.521 082 | 0.023 5177 |
| .26 | .415 8000 | 26.049 537 | .038 3884 | .76 | .632 9473 | .948 426 | .023 2837 |
| .27 | .420 1430 | .311 339 | .038 0064 | .77 | .637 2902 | 43.380 065 | .023 0521 |
| .28 | .424 4859 | .575 773 | .037 6283 | .78 | .641 6331 | .816 042 | .022 8227 |
| .29 | .428 8288 | .842 864 | .037 2538 | .79 | .645 9761 | 44.256 400 | .022 5956 |
| 3.30 | 1.433 1718 | 27.112 639 | 0.036 8832 | 3.80 | 1.650 3190 | 44.701 185 | 0.022 3708 |
| .31 | .437 5147 | .385 125 | .036 5162 | .81 | .654 6620 | 45.150 439 | .022 1482 |
| .32 | .441 8577 | .660 351 | .036 1528 | .82 | .659 0049 | .604 208 | .021 9278 |
| .33 | .446 2006 | .938 342 | .035 7931 | .83 | .663 3479 | 46.062 538 | .021 7096 |
| .34 | .450 5436 | 28.219 127 | .035 4370 | .84 | .667 6908 | .525 474 | .021 4936 |
| 3.35 | 1.454 8865 | 28.502 734 | 0.035 0844 | 3.85 | 1.672 0338 | 46.993 063 | 0.021 2797 |
| .36 | .459 2295 | .789 191 | .034 7353 | .86 | .676 3767 | 47.465 351 | .021 0680 |
| .37 | .463 5724 | 29.078 527 | .034 3896 | .87 | .680 7196 | .942 386 | .020 8584 |
| .38 | .467 9153 | .370 771 | .034 0475 | .88 | .685 0626 | 48.424 215 | .020 6508 |
| .39 | .472 2583 | .665 952 | .033 7087 | .89 | .689 4055 | .910 887 | .020 4453 |
| 3.40 | 1.476 6012 | 29.964 100 | 0.033 3733 | 3.90 | 1.693 7485 | 49.402 449 | 0.020 2419 |
| .41 | .480 9442 | 30.265 244 | .033 0412 | .91 | .698 0914 | .898 952 | .020 0405 |
| .42 | .485 2871 | .569 415 | .032 7124 | .92 | .702 4344 | 50.400 445 | .019 8411 |
| .43 | .489 6301 | .876 643 | .032 3869 | .93 | .706 7773 | .906 978 | .019 6437 |
| .44 | .493 9730 | 31.186 958 | .032 0647 | .94 | .711 1203 | 51.418 601 | .019 4482 |
| 3.45 | 1.498 3160 | 31.500 392 | 0.031 7456 | 3.95 | 1.715 4632 | 51.935 367 | 0.019 2547 |
| .46 | .502 6589 | .816 977 | .031 4298 | .96 | .719 8061 | 52.457 326 | .019 0631 |
| .47 | .507 0019 | 32.136 743 | .031 1170 | .97 | .724 1491 | .984 531 | .018 8734 |
| .48 | .511 3448 | .459 722 | .030 8074 | .98 | .728 4920 | 53.517 034 | .018 6856 |
| .49 | .515 6877 | .785 948 | .030 5009 | .99 | .732 8350 | 54.054 889 | .018 4997 |
| 3.50 | 1.520 0307 | 33.115 452 | 0.030 1974 | 4.00 | 1.737 1779 | 54.598 150 | 0.018 3156 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|------------|------------|---------------|------------------|-------------|------------|
| 4.00 | 1.737 1779 | 54.598 150 | 0.018 3156 | 4.50 | 1.954 3252 | 90.017 131 | 0.011 1090 |
| .01 | .741 5209 | 55.146 871 | .018 1334 | .51 | .958 6681 | .921 819 | .010 9085 |
| .02 | .745 8638 | .701 106 | .017 9530 | .52 | .963 0111 | 91.833 598 | .010 8890 |
| .03 | .750 2068 | 56.260 911 | .017 7743 | .53 | .967 3540 | 92.758 561 | .010 7807 |
| .04 | .754 5497 | .826 343 | .017 5975 | .54 | .971 6969 | 93.690 800 | .010 6734 |
| 4.05 | 1.758 8927 | 57.397 457 | 0.017 4224 | 4.55 | 1.976 0399 | 94.632 408 | 0.010 5672 |
| .06 | .763 2356 | .974 311 | .017 2490 | .56 | .980 3828 | 95.583 480 | .010 4621 |
| .07 | .767 5785 | 58.556 963 | .017 0774 | .57 | .984 7258 | 96.544 110 | .010 3580 |
| .08 | .771 9215 | 59.145 470 | .016 9075 | .58 | .989 0687 | 97.514 394 | .010 2549 |
| .09 | .776 2644 | .739 892 | .016 7392 | .59 | .993 4117 | 98.494 430 | .010 1529 |
| 4.10 | 1.780 6074 | 60.340 288 | 0.016 5727 | 4.60 | 1.997 7546 | 99.484 316 | 0.010 0518 |
| .11 | .784 9503 | .946 718 | .016 4078 | .61 | 2.002 0976 | 100.484 150 | .009 9518 |
| .12 | .789 2933 | 61.559 242 | .016 2445 | .62 | .006 4405 | 101.494 032 | .009 8528 |
| .13 | .793 6362 | 62.177 923 | .016 0829 | .63 | .010 7835 | 102.514 064 | .009 7548 |
| .14 | .797 9792 | .802 821 | .015 9229 | .64 | .015 1264 | 103.544 348 | .009 6577 |
| 4.15 | 1.802 3221 | 63.434 000 | 0.015 7644 | 4.65 | 2.019 4693 | 104.584 986 | 0.009 5616 |
| .16 | .806 6650 | 64.071 523 | .015 6076 | .66 | .023 8123 | 105.636 082 | .009 4665 |
| .17 | .811 0080 | .715 452 | .015 4523 | .67 | .028 1552 | 106.697 743 | .009 3723 |
| .18 | .815 3509 | 65.365 853 | .015 2985 | .68 | .032 4982 | 107.770 073 | .009 2790 |
| .19 | .819 6939 | 66.022 791 | .015 1463 | .69 | .036 8411 | 108.853 180 | .009 1867 |
| 4.20 | 1.824 0368 | 66.686 331 | 0.014 9956 | 4.70 | 2.041 1841 | 109.947 173 | 0.009 0953 |
| .21 | .828 3798 | 67.356 540 | .014 8464 | .71 | .045 5270 | 111.052 160 | .009 0048 |
| .22 | .832 7227 | 68.033 484 | .014 6986 | .72 | .049 8700 | 112.168 253 | .008 9152 |
| .23 | .837 0657 | .717 232 | .014 5524 | .73 | .054 2129 | 113.295 563 | .008 8265 |
| .24 | .841 4086 | 69.407 852 | .014 4076 | .74 | .058 5558 | 114.434 202 | .008 7386 |
| 4.25 | 1.845 7515 | 70.105 412 | 0.014 2642 | 4.75 | 2.062 8988 | 115.584 285 | 0.008 6517 |
| .26 | .850 0945 | .809 983 | .014 1223 | .76 | .067 2417 | 116.745 926 | .008 5656 |
| .27 | .854 4374 | 71.521 636 | .013 9818 | .77 | .071 5847 | 117.919 242 | .008 4804 |
| .28 | .858 7804 | 72.240 440 | .013 8427 | .78 | .075 9276 | 119.104 351 | .008 3960 |
| .29 | .863 1233 | .966 468 | .013 7049 | .79 | .080 2706 | 120.301 369 | .008 3125 |
| 4.30 | 1.867 4663 | 73.699 794 | 0.013 5686 | 4.80 | 2.084 6135 | 121.510 418 | 0.008 2297 |
| .31 | .871 8092 | 74.440 489 | .013 4335 | .81 | .088 9565 | 122.731 618 | .008 1479 |
| .32 | .876 1522 | 75.188 628 | .013 2999 | .82 | .093 2994 | 123.965 091 | .008 0668 |
| .33 | .880 4951 | .944 287 | .013 1675 | .83 | .097 6423 | 125.210 961 | .007 9865 |
| .34 | .884 8381 | 76.707 539 | .013 0365 | .84 | .101 9853 | 126.469 352 | .007 9071 |
| 4.35 | 1.889 1810 | 77.478 463 | 0.012 9068 | 4.85 | 2.106 3282 | 127.740 390 | 0.007 8284 |
| .36 | .893 5239 | 78.257 134 | .012 7784 | .86 | .110 6712 | 129.024 203 | .007 7505 |
| .37 | .897 8669 | 79.043 632 | .012 6512 | .87 | .115 0141 | 130.320 918 | .007 6734 |
| .38 | .902 2098 | .838 033 | .012 5254 | .88 | .119 3571 | 131.630 665 | .007 5970 |
| .39 | .906 5528 | 80.640 419 | .012 4007 | .89 | .123 7000 | 132.953 575 | .007 5214 |
| 4.40 | 1.910 8957 | 81.450 869 | 0.012 2773 | 4.90 | 2.128 0430 | 134.289 780 | 0.007 4466 |
| .41 | .915 2387 | 82.269 464 | .012 1552 | .91 | .132 3859 | 135.639 415 | .007 3725 |
| .42 | .919 5816 | 83.096 285 | .012 0342 | .92 | .136 7289 | 137.002 613 | .007 2991 |
| .43 | .923 9246 | .931 417 | .011 9145 | .93 | .141 0718 | 138.379 513 | .007 2265 |
| .44 | .928 2675 | 84.774 942 | .011 7959 | .94 | .145 4147 | 139.770 250 | .007 1546 |
| 4.45 | 1.932 6104 | 85.626 944 | 0.011 6786 | 4.95 | 2.149 7577 | 141.174 964 | 0.007 0834 |
| .46 | .936 9534 | 86.487 509 | .011 5624 | .96 | .154 1006 | 142.593 796 | .007 0129 |
| .47 | .941 2963 | 87.356 723 | .011 4473 | .97 | .158 4436 | 144.026 888 | .006 9431 |
| .48 | .945 6393 | 88.234 673 | .011 3334 | .98 | .162 7865 | 145.474 382 | .006 8741 |
| .49 | .949 9822 | 89.121 446 | .011 2206 | .99 | .167 1295 | 146.930 424 | .006 8057 |
| 4.50 | 1.954 3252 | 90.017 131 | 0.011 1090 | 5.00 | 2.171 4724 | 148.413 159 | 0.006 7379 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} | u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|---------------|------------------|-------------|------------|---------------|------------------|-------------|------------|
| 5.00 | 2.171 4724 | 148.413 159 | 0.006 7379 | 5.50 | 2.388 6197 | 244.691 932 | 0.004 0868 |
| .01 | .175 8154 | 149.904 736 | .006 6709 | .51 | .392 9626 | 247.151 127 | .004 0461 |
| .02 | .180 1583 | 151.411 304 | .006 6045 | .52 | .397 3055 | 249.635 037 | .004 0058 |
| .03 | .184 5012 | 152.933 013 | .006 5388 | .53 | .401 6485 | 252.143 911 | .003 9660 |
| .04 | .188 8442 | 154.470 015 | .006 4737 | .54 | .405 9914 | 254.677 999 | .003 9265 |
| 5.05 | 2.193 1871 | 156.022 464 | 0.006 4093 | 5.55 | 2.410 3344 | 257.237 556 | 0.003 8875 |
| .06 | .197 5301 | 157.590 516 | .006 3456 | .56 | .414 6773 | 259.822 836 | .003 8488 |
| .07 | .201 8730 | 159.174 327 | .006 2824 | .57 | .419 0203 | 262.434 099 | .003 8105 |
| .08 | .206 2160 | 160.774 056 | .006 2199 | .58 | .423 3632 | 265.071 606 | .003 7726 |
| .09 | .210 5589 | 162.389 862 | .006 1580 | .59 | .427 7062 | 267.735 620 | .003 7350 |
| 5.10 | 2.214 9019 | 164.021 907 | 0.006 0967 | 5.60 | 2.432 0491 | 270.426 407 | 0.003 6979 |
| .11 | .219 2448 | 165.670 355 | .006 0361 | .61 | .436 3920 | 273.144 238 | .003 6611 |
| .12 | .223 5877 | 167.335 369 | .005 9760 | .62 | .440 7350 | 275.889 383 | .003 6246 |
| .13 | .227 9307 | 169.017 118 | .005 9166 | .63 | .445 0779 | 278.662 117 | .003 5886 |
| .14 | .232 2736 | 170.715 768 | .005 8577 | .64 | .449 4209 | 281.462 718 | .003 5529 |
| 5.15 | 2.236 6166 | 172.431 490 | 0.005 7994 | 5.65 | 2.453 7638 | 284.291 466 | 0.003 5175 |
| .16 | .240 9595 | 174.164 455 | .005 7417 | .66 | .458 1068 | 287.148 642 | .003 4825 |
| .17 | .245 3025 | 175.914 837 | .005 6846 | .67 | .462 4497 | 290.034 534 | .003 4479 |
| .18 | .249 6454 | 177.682 811 | .005 6280 | .68 | .466 7927 | 292.949 430 | .003 4136 |
| .19 | .253 9884 | 179.468 553 | .005 5720 | .69 | .471 1356 | 295.893 620 | .003 3796 |
| 5.20 | 2.258 3313 | 181.272 242 | 0.005 5166 | 5.70 | 2.475 4785 | 298.867 401 | 0.003 3460 |
| .21 | .262 6743 | 183.094 058 | .005 4617 | .71 | .479 8215 | 301.871 068 | .003 3127 |
| .22 | .267 0172 | 184.934 184 | .005 4073 | .72 | .484 1644 | 304.904 923 | .003 2797 |
| .23 | .271 3601 | 186.792 804 | .005 3535 | .73 | .488 5074 | 307.969 268 | .003 2471 |
| .24 | .275 7031 | 188.670 103 | .005 3003 | .74 | .492 8503 | 311.064 411 | .003 2148 |
| 5.25 | 2.280 0460 | 190.566 269 | 0.005 2475 | 5.75 | 2.497 1933 | 314.190 660 | 0.003 1828 |
| .26 | .284 3890 | 192.481 491 | .005 1953 | .76 | .501 5362 | 317.348 329 | .003 1511 |
| .27 | .288 7319 | 194.415 963 | .005 1436 | .77 | .505 8792 | 320.537 733 | .003 1198 |
| .28 | .293 0749 | 196.369 875 | .005 0924 | .78 | .510 2221 | 323.759 190 | .003 0887 |
| .29 | .297 4178 | 198.343 426 | .005 0418 | .79 | .514 5651 | 327.013 024 | .003 0580 |
| 5.30 | 2.301 7608 | 200.336 810 | 0.004 9916 | 5.80 | 2.518 9080 | 330.299 560 | 0.003 0276 |
| .31 | .306 1037 | 202.350 228 | .004 9419 | .81 | .523 2509 | 333.619 126 | .002 9974 |
| .32 | .310 4466 | 204.383 882 | .004 8928 | .82 | .527 5939 | 336.972 054 | .002 9676 |
| .33 | .314 7896 | 206.437 974 | .004 8441 | .83 | .531 9368 | 340.358 679 | .002 9381 |
| .34 | .319 1325 | 208.512 710 | .004 7959 | .84 | .536 2798 | 343.779 341 | .002 9088 |
| 5.35 | 2.323 4755 | 210.608 298 | 0.004 7482 | 5.85 | 2.540 6227 | 347.234 381 | 0.002 8799 |
| .36 | .327 8184 | 212.724 946 | .004 7009 | .86 | .544 9657 | 350.724 144 | .002 8512 |
| .37 | .332 1614 | 214.862 868 | .004 6541 | .87 | .549 3086 | 354.248 980 | .002 8229 |
| .38 | .336 5043 | 217.022 275 | .004 6078 | .88 | .553 6516 | 357.809 242 | .002 7948 |
| .39 | .340 8473 | 219.203 386 | .004 5620 | .89 | .557 9945 | 361.405 284 | .002 7670 |
| 5.40 | 2.345 1902 | 221.406 416 | 0.004 5166 | 5.90 | 2.562 3374 | 365.037 468 | 0.002 7394 |
| .41 | .349 5331 | 223.631 588 | .004 4716 | .91 | .566 6804 | 368.706 156 | .002 7122 |
| .42 | .353 8761 | 225.879 122 | .004 4271 | .92 | .571 0233 | 372.411 714 | .002 6852 |
| .43 | .358 2190 | 228.149 245 | .004 3831 | .93 | .575 3663 | 376.154 514 | .002 6585 |
| .44 | .362 5620 | 230.442 183 | .004 3395 | .94 | .579 7092 | 379.934 930 | .002 6320 |
| 5.45 | 2.366 9049 | 232.758 166 | 0.004 2963 | 5.95 | 2.584 0522 | 383.753 339 | 0.002 6058 |
| .46 | .371 2479 | 235.097 424 | .004 2536 | .96 | .588 3951 | 387.610 124 | .002 5799 |
| .47 | .375 5908 | 237.460 193 | .004 2112 | .97 | .592 7381 | 391.505 671 | .002 5542 |
| .48 | .379 9338 | 239.846 707 | .004 1693 | .98 | .597 0810 | 395.440 368 | .002 5288 |
| .49 | .384 2767 | 242.257 207 | .004 1278 | .99 | .601 4239 | 399.414 610 | .002 5037 |
| 5.50 | 2.388 6197 | 244.691 932 | 0.004 0868 | 6.00 | 2.605 7669 | 403.428 794 | 0.002 4788 |
| $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} | $\log_e(e^u)$ | $\log_{10}(e^u)$ | e^u | e^{-u} |

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|----|------------------|------------------|------------------|
| 1 | .43429 44819 | 2.71 828 183 | 0.367 879 441 |
| 2 | .86858 89638 | 7.38 905 610 | 0.135 335 283 |
| 3 | 1.30288 34457 | 20.0 855 369 | (1) 497 870 684 |
| 4 | 1.73717 79276 | 54.5 981 500 | (1) 183 156 389 |
| 5 | 2.17147 24095 | 148. 413 159 | (2) 673 794 700 |
| 6 | 2.60576 68914 | 403. 428 793 | (2) 247 875 218 |
| 7 | 3.04006 13733 | 109 6.63 316 | (3) 911 881 966 |
| 8 | 3.47435 58552 | 208 0.95 799 | (3) 335 462 628 |
| 9 | 3.90805 03371 | 810 3.08 393 | (3) 123 409 804 |
| 10 | 4.34294 48190 | 220 26.4 658 | (4) 453 999 298 |
| 11 | 4.77723 93009 | 598 74.1 417 | (4) 167 017 008 |
| 12 | 5.21153 37828 | 162 754. 791 | (5) 614 421 235 |
| 13 | 5.64582 82647 | 442 413. 392 | (5) 226 032 941 |
| 14 | 6.08012 27466 | 120 260 4.28 | (6) 831 528 719 |
| 15 | 6.51441 72285 | 326 901 7.37 | (6) 305 902 321 |
| 16 | 6.94871 17105 | 888 611 0.52 | (6) 112 535 175 |
| 17 | 7.38300 61924 | 241 549 52.8 | (7) 413 993 772 |
| 18 | 7.81730 06743 | 656 599 69.1 | (7) 152 299 797 |
| 19 | 8.25159 51562 | 178 482 301. | (8) 560 279 644 |
| 20 | 8.68588 96381 | 485 165 195. | (8) 206 115 362 |
| 21 | 9.12018 41200 | 131 881 573 [1] | (9) 758 256 043 |
| 22 | 9.55447 86019 | 358 491 285 [1] | (9) 278 946 809 |
| 23 | 9.98877 30838 | 974 480 345 [1] | (9) 102 618 796 |
| 24 | 10.42306 75657 | 264 891 221 [2] | (10) 377 513 454 |
| 25 | 10.85736 20476 | 720 048 993 [2] | (10) 138 879 439 |
| 26 | 11.29165 65295 | 195 729 609 [3] | (11) 510 908 903 |
| 27 | 11.72595 10114 | 532 048 241 [3] | (11) 187 952 882 |
| 28 | 12.16024 54933 | 144 625 707 [4] | (12) 691 440 011 |
| 29 | 12.59453 99752 | 393 133 430 [4] | (12) 254 366 565 |
| 30 | 13.02883 44571 | 106 864 746 [5] | (13) 935 762 297 |
| 31 | 13.46312 89390 | 290 488 497 [5] | (13) 344 247 711 |
| 32 | 13.89742 34209 | 789 629 602 [5] | (13) 126 641 656 |
| 33 | 14.33171 79028 | 214 643 580 [6] | (14) 465 888 615 |
| 34 | 14.76601 23847 | 583 461 743 [6] | (14) 171 390 843 |
| 35 | 15.20030 68666 | 158 601 345 [7] | (15) 630 511 676 |
| 36 | 15.63460 13485 | 431 123 155 [7] | (15) 231 952 283 |
| 37 | 16.06889 58304 | 117 191 424 [8] | (16) 853 304 763 |
| 38 | 16.50319 03123 | 318 559 318 [8] | (16) 313 913 279 |
| 39 | 16.93748 47942 | 865 934 004 [8] | (16) 115 482 242 |
| 40 | 17.37177 92761 | 235 385 267 [9] | (17) 424 835 426 |
| 41 | 17.80607 37580 | 639 843 493 [9] | (17) 156 288 219 |
| 42 | 18.24036 82399 | 173 927 494 [10] | (18) 574 952 227 |
| 43 | 18.67466 27218 | 472 783 947 [10] | (18) 211 513 104 |
| 44 | 19.10895 72037 | 128 516 001 [11] | (19) 778 113 221 |
| 45 | 19.54325 16856 | 349 342 711 [11] | (19) 286 251 858 |
| 46 | 19.97754 61675 | 949 611 942 [11] | (19) 105 306 174 |
| 47 | 20.41184 06495 | 258 131 289 [12] | (20) 387 399 763 |
| 48 | 20.84613 51314 | 701 673 591 [12] | (20) 142 516 408 |
| 49 | 21.28042 96133 | 190 734 657 [13] | (21) 524 288 566 |
| 50 | 21.71472 40952 | 518 470 553 [13] | (21) 192 874 985 |

The numbers in square brackets denote the numbers of figures between the last figure given and the decimal point; for example, the first nine figures of e^{50} are 518470553, and there are 13 additional figures before the decimal point is reached. The numbers in parentheses denote the numbers of ciphers between the decimal point and the first significant figure; for example, in e^{-50} there are 21 ciphers between the decimal point and the figures 192874985.

The Exponential.

| u | $\log_{10}(e^u)$ | e^u | e^{-u} |
|-----|------------------|------------------|------------------|
| 51 | 22.14901 85771 | 140 934 908 [14] | (22) 709 547 416 |
| 52 | 22.58331 30590 | 383 100 800 [14] | (22) 261 027 907 |
| 53 | 23.01760 75409 | 104 137 594 [15] | (23) 960 268 005 |
| 54 | 23.45190 20228 | 283 075 330 [15] | (23) 353 262 857 |
| 55 | 23.88619 65047 | 769 478 527 [15] | (23) 129 958 143 |
| 56 | 24.32049 09866 | 209 165 950 [16] | (24) 478 089 288 |
| 57 | 24.75478 54685 | 568 572 000 [16] | (24) 175 879 220 |
| 58 | 25.18907 99504 | 154 553 894 [17] | (25) 647 023 493 |
| 59 | 25.62337 44323 | 420 121 040 [17] | (25) 238 026 641 |
| 60 | 26.05766 89142 | 114 200 739 [18] | (26) 875 651 076 |
| 61 | 26.49196 33961 | 310 429 794 [18] | (26) 322 134 029 |
| 62 | 26.92625 78780 | 843 835 667 [18] | (26) 118 506 487 |
| 63 | 27.36055 23599 | 229 378 316 [19] | (27) 435 961 000 |
| 64 | 27.79484 68418 | 623 514 908 [19] | (27) 160 381 089 |
| 65 | 28.22914 13237 | 169 488 924 [20] | (28) 590 009 054 |
| 66 | 28.66343 58056 | 460 718 663 [20] | (28) 217 052 201 |
| 67 | 29.09773 02875 | 125 236 317 [21] | (29) 798 490 425 |
| 68 | 29.53202 47694 | 340 427 605 [21] | (29) 293 748 211 |
| 69 | 29.96631 92513 | 925 378 172 [21] | (29) 108 063 928 |
| 70 | 30.40061 37332 | 251 543 867 [22] | (30) 397 544 974 |
| 71 | 30.83490 82151 | 683 767 123 [22] | (30) 146 248 623 |
| 72 | 31.26920 26970 | 185 867 175 [23] | (31) 538 018 616 |
| 73 | 31.70349 71789 | 505 239 363 [23] | (31) 197 925 988 |
| 74 | 32.13779 16608 | 137 338 298 [24] | (32) 728 129 018 |
| 75 | 32.57208 61427 | 373 324 200 [24] | (32) 267 853 666 |
| 76 | 33.00638 06246 | 101 480 039 [25] | (33) 985 415 469 |
| 77 | 33.44067 51066 | 275 851 346 [25] | (33) 362 514 092 |
| 78 | 33.87496 95885 | 749 841 700 [25] | (33) 133 361 482 |
| 79 | 34.30926 40704 | 203 828 107 [26] | (34) 490 609 473 |
| 80 | 34.74355 85523 | 554 062 238 [26] | (34) 180 485 139 |
| 81 | 35.17785 30342 | 150 609 731 [27] | (35) 663 967 720 |
| 82 | 35.61214 75161 | 409 399 696 [27] | (35) 244 260 074 |
| 83 | 36.04644 19980 | 111 286 376 [28] | (36) 898 582 594 |
| 84 | 36.48073 64799 | 302 507 732 [28] | (36) 330 570 063 |
| 85 | 36.91503 09618 | 822 301 271 [28] | (36) 121 609 930 |
| 86 | 37.34932 54437 | 223 524 660 [29] | (37) 447 377 931 |
| 87 | 37.78361 99256 | 607 603 023 [29] | (37) 164 581 143 |
| 88 | 38.21791 44075 | 165 163 626 [30] | (38) 605 460 189 |
| 89 | 38.65220 88894 | 448 961 282 [30] | (38) 222 736 356 |
| 90 | 39.08650 33713 | 122 040 329 [31] | (39) 819 401 262 |
| 91 | 39.52079 78532 | 331 740 010 [31] | (39) 301 440 879 |
| 92 | 39.95509 23351 | 901 762 841 [31] | (39) 110 893 902 |
| 93 | 40.38938 68170 | 245 124 554 [32] | (40) 407 955 867 |
| 94 | 40.82368 12089 | 666 317 622 [32] | (40) 150 078 576 |
| 95 | 41.25797 57808 | 181 123 908 [33] | (41) 552 108 228 |
| 96 | 41.69227 02627 | 492 345 829 [33] | (41) 203 109 266 |
| 97 | 42.12656 47446 | 133 833 472 [34] | (42) 747 197 234 |
| 98 | 42.56085 92265 | 363 797 095 [34] | (42) 274 878 501 |
| 99 | 42.99515 37084 | 988 903 032 [34] | (42) 101 122 149 |
| 100 | 43.42944 81903 | 268 811 714 [35] | (43) 372 007 598 |

The numbers in square brackets denote the numbers of figures between the last figure given and the decimal point; for example, the first nine figures of e^{60} are 518470553, and there are 13 additional figures before the decimal point is reached. The numbers in parentheses denote the numbers of ciphers between the decimal point and the first significant figure; for example, in e^{-60} there are 21 ciphers between the decimal point and the figures 192874985.

Auxiliary Table for Interpolation of $\text{Log}_{10}(e^u)$.

$$(p = n \times 43429 \ 44819 \ . \ . \ .)$$

| n | p | n | p | n | p | n | p | n | p |
|-------|------|-------|------|-------|------|-------|------|-------|-------|
| 0.000 | 000 | 0.050 | 2171 | 0.100 | 4343 | 0.150 | 6514 | 0.200 | 8686 |
| .001 | 043 | .051 | 2215 | .101 | 4386 | .151 | 6558 | .201 | 8729 |
| .002 | 087 | .052 | 2258 | .102 | 4430 | .152 | 6601 | .202 | 8773 |
| .003 | 130 | .053 | 2302 | .103 | 4473 | .153 | 6645 | .203 | 8816 |
| .004 | 174 | .054 | 2345 | .104 | 4517 | .154 | 6688 | .204 | 8860 |
| 0.005 | 217 | 0.055 | 2389 | 0.105 | 4560 | 0.155 | 6732 | 0.205 | 8903 |
| .006 | 261 | .056 | 2432 | .106 | 4604 | .156 | 6775 | .206 | 8946 |
| .007 | 304 | .057 | 2475 | .107 | 4647 | .157 | 6818 | .207 | 8990 |
| .008 | 347 | .058 | 2519 | .108 | 4690 | .158 | 6862 | .208 | 9033 |
| .009 | 391 | .059 | 2562 | .109 | 4734 | .159 | 6905 | .209 | 9077 |
| 0.010 | 434 | 0.060 | 2606 | 0.110 | 4777 | 0.160 | 6949 | 0.210 | 9120 |
| .011 | 478 | .061 | 2649 | .111 | 4821 | .161 | 6992 | .211 | 9164 |
| .012 | 521 | .062 | 2693 | .112 | 4864 | .162 | 7036 | .212 | 9207 |
| .013 | 565 | .063 | 2736 | .113 | 4908 | .163 | 7079 | .213 | 9250 |
| .014 | 608 | .064 | 2779 | .114 | 4951 | .164 | 7122 | .214 | 9294 |
| 0.015 | 651 | 0.065 | 2823 | 0.115 | 4994 | 0.165 | 7166 | 0.215 | 9337 |
| .016 | 695 | .066 | 2866 | .116 | 5038 | .166 | 7209 | .216 | 9381 |
| .017 | 738 | .067 | 2910 | .117 | 5081 | .167 | 7253 | .217 | 9424 |
| .018 | 782 | .068 | 2953 | .118 | 5125 | .168 | 7296 | .218 | 9468 |
| .019 | 825 | .069 | 2997 | .119 | 5168 | .169 | 7340 | .219 | 9511 |
| 0.020 | 869 | 0.070 | 3040 | 0.120 | 5212 | 0.170 | 7383 | 0.220 | 9554 |
| .021 | 912 | .071 | 3083 | .121 | 5255 | .171 | 7426 | .221 | 9598 |
| .022 | 955 | .072 | 3127 | .122 | 5298 | .172 | 7470 | .222 | 9641 |
| .023 | 999 | .073 | 3170 | .123 | 5342 | .173 | 7513 | .223 | 9685 |
| .024 | 1042 | .074 | 3214 | .124 | 5385 | .174 | 7557 | .224 | 9728 |
| 0.025 | 1086 | 0.075 | 3257 | 0.125 | 5429 | 0.175 | 7600 | 0.225 | 9772 |
| .026 | 1129 | .076 | 3301 | .126 | 5472 | .176 | 7644 | .226 | 9815 |
| .027 | 1173 | .077 | 3344 | .127 | 5516 | .177 | 7687 | .227 | 9858 |
| .028 | 1216 | .078 | 3387 | .128 | 5559 | .178 | 7730 | .228 | 9902 |
| .029 | 1259 | .079 | 3431 | .129 | 5602 | .179 | 7774 | .229 | 9945 |
| 0.030 | 1303 | 0.080 | 3474 | 0.130 | 5646 | 0.180 | 7817 | 0.230 | 9989 |
| .031 | 1346 | .081 | 3518 | .131 | 5689 | .181 | 7861 | .231 | 10032 |
| .032 | 1390 | .082 | 3561 | .132 | 5733 | .182 | 7904 | .232 | 10076 |
| .033 | 1433 | .083 | 3605 | .133 | 5776 | .183 | 7948 | .233 | 10119 |
| .034 | 1477 | .084 | 3648 | .134 | 5820 | .184 | 7991 | .234 | 10162 |
| 0.035 | 1520 | 0.085 | 3692 | 0.135 | 5863 | 0.185 | 8034 | 0.235 | 10206 |
| .036 | 1563 | .086 | 3735 | .136 | 5906 | .186 | 8078 | .236 | 10249 |
| .037 | 1607 | .087 | 3778 | .137 | 5950 | .187 | 8121 | .237 | 10293 |
| .038 | 1650 | .088 | 3822 | .138 | 5993 | .188 | 8165 | .238 | 10336 |
| .039 | 1694 | .089 | 3865 | .139 | 6037 | .189 | 8208 | .239 | 10380 |
| 0.040 | 1737 | 0.090 | 3909 | 0.140 | 6080 | 0.190 | 8252 | 0.240 | 10423 |
| .041 | 1781 | .091 | 3952 | .141 | 6124 | .191 | 8295 | .241 | 10466 |
| .042 | 1824 | .092 | 3996 | .142 | 6167 | .192 | 8338 | .242 | 10510 |
| .043 | 1867 | .093 | 4039 | .143 | 6210 | .193 | 8382 | .243 | 10553 |
| .044 | 1911 | .094 | 4082 | .144 | 6254 | .194 | 8425 | .244 | 10597 |
| 0.045 | 1954 | 0.095 | 4126 | 0.145 | 6297 | 0.195 | 8469 | 0.245 | 10640 |
| .046 | 1998 | .096 | 4169 | .146 | 6341 | .196 | 8512 | .246 | 10684 |
| .047 | 2041 | .097 | 4213 | .147 | 6384 | .197 | 8556 | .247 | 10727 |
| .048 | 2085 | .098 | 4256 | .148 | 6428 | .198 | 8599 | .248 | 10771 |
| .049 | 2128 | .099 | 4300 | .149 | 6471 | .199 | 8642 | .249 | 10814 |
| 0.050 | 2171 | 0.100 | 4343 | 0.150 | 6514 | 0.200 | 8686 | 0.250 | 10857 |
| n | p | n | p | n | p | n | p | n | p |

Auxiliary Table for Interpolation of $\text{Log}_{10}(e^u)$.

($p = n \times 43429\ 44819\ \dots$)

| n | p | n | p | n | p | n | p | n | p |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.250 | 10857 | 0.300 | 13029 | 0.350 | 15200 | 0.400 | 17372 | 0.450 | 19543 |
| .251 | 10901 | .301 | 13072 | .351 | 15244 | .401 | 17415 | .451 | 19587 |
| .252 | 10944 | .302 | 13116 | .352 | 15287 | .402 | 17459 | .452 | 19630 |
| .253 | 10988 | .303 | 13159 | .353 | 15331 | .403 | 17502 | .453 | 19674 |
| .254 | 11031 | .304 | 13203 | .354 | 15374 | .404 | 17545 | .454 | 19717 |
| 0.255 | 11075 | 0.305 | 13246 | 0.355 | 15417 | 0.405 | 17589 | 0.455 | 19760 |
| .256 | 11118 | .306 | 13289 | .356 | 15461 | .406 | 17632 | .456 | 19804 |
| .257 | 11161 | .307 | 13333 | .357 | 15504 | .407 | 17676 | .457 | 19847 |
| .258 | 11205 | .308 | 13376 | .358 | 15548 | .408 | 17719 | .458 | 19891 |
| .259 | 11248 | .309 | 13420 | .359 | 15591 | .409 | 17763 | .459 | 19934 |
| 0.260 | 11292 | 0.310 | 13463 | 0.360 | 15635 | 0.410 | 17806 | 0.460 | 19978 |
| .261 | 11335 | .311 | 13507 | .361 | 15678 | .411 | 17850 | .461 | 20021 |
| .262 | 11379 | .312 | 13550 | .362 | 15721 | .412 | 17893 | .462 | 20064 |
| .263 | 11422 | .313 | 13593 | .363 | 15765 | .413 | 17936 | .463 | 20108 |
| .264 | 11465 | .314 | 13637 | .364 | 15808 | .414 | 17980 | .464 | 20151 |
| 0.265 | 11509 | 0.315 | 13680 | 0.365 | 15852 | 0.415 | 18023 | 0.465 | 20195 |
| .266 | 11552 | .316 | 13724 | .366 | 15895 | .416 | 18067 | .466 | 20238 |
| .267 | 11596 | .317 | 13767 | .367 | 15939 | .417 | 18110 | .467 | 20282 |
| .268 | 11639 | .318 | 13811 | .368 | 15982 | .418 | 18154 | .468 | 20325 |
| .269 | 11683 | .319 | 13854 | .369 | 16025 | .419 | 18197 | .469 | 20368 |
| 0.270 | 11726 | 0.320 | 13897 | 0.370 | 16069 | 0.420 | 18240 | 0.470 | 20412 |
| .271 | 11769 | .321 | 13941 | .371 | 16112 | .421 | 18284 | .471 | 20455 |
| .272 | 11813 | .322 | 13984 | .372 | 16156 | .422 | 18327 | .472 | 20499 |
| .273 | 11856 | .323 | 14028 | .373 | 16199 | .423 | 18371 | .473 | 20542 |
| .274 | 11900 | .324 | 14071 | .374 | 16243 | .424 | 18414 | .474 | 20586 |
| 0.275 | 11943 | 0.325 | 14115 | 0.375 | 16286 | 0.425 | 18458 | 0.475 | 20629 |
| .276 | 11987 | .326 | 14158 | .376 | 16329 | .426 | 18501 | .476 | 20672 |
| .277 | 12030 | .327 | 14201 | .377 | 16373 | .427 | 18544 | .477 | 20716 |
| .278 | 12073 | .328 | 14245 | .378 | 16416 | .428 | 18588 | .478 | 20759 |
| .279 | 12117 | .329 | 14288 | .379 | 16460 | .429 | 18631 | .479 | 20803 |
| 0.280 | 12160 | 0.330 | 14332 | 0.380 | 16503 | 0.430 | 18675 | 0.480 | 20846 |
| .281 | 12204 | .331 | 14375 | .381 | 16547 | .431 | 18718 | .481 | 20890 |
| .282 | 12247 | .332 | 14419 | .382 | 16590 | .432 | 18762 | .482 | 20933 |
| .283 | 12291 | .333 | 14462 | .383 | 16633 | .433 | 18805 | .483 | 20976 |
| .284 | 12334 | .334 | 14505 | .384 | 16677 | .434 | 18848 | .484 | 21020 |
| 0.285 | 12377 | 0.335 | 14549 | 0.385 | 16720 | 0.435 | 18892 | 0.485 | 21063 |
| .286 | 12421 | .336 | 14592 | .386 | 16764 | .436 | 18935 | .486 | 21107 |
| .287 | 12464 | .337 | 14636 | .387 | 16807 | .437 | 18979 | .487 | 21150 |
| .288 | 12508 | .338 | 14679 | .388 | 16851 | .438 | 19022 | .488 | 21194 |
| .289 | 12551 | .339 | 14723 | .389 | 16894 | .439 | 19066 | .489 | 21237 |
| 0.290 | 12595 | 0.340 | 14766 | 0.390 | 16937 | 0.440 | 19109 | 0.490 | 21280 |
| .291 | 12638 | .341 | 14809 | .391 | 16981 | .441 | 19152 | .491 | 21324 |
| .292 | 12681 | .342 | 14853 | .392 | 17024 | .442 | 19196 | .492 | 21367 |
| .293 | 12725 | .343 | 14896 | .393 | 17068 | .443 | 19239 | .493 | 21411 |
| .294 | 12768 | .344 | 14940 | .394 | 17111 | .444 | 19283 | .494 | 21454 |
| 0.295 | 12812 | 0.345 | 14983 | 0.395 | 17155 | 0.445 | 19326 | 0.495 | 21498 |
| .296 | 12855 | .346 | 15027 | .396 | 17198 | .446 | 19370 | .496 | 21541 |
| .297 | 12899 | .347 | 15070 | .397 | 17241 | .447 | 19413 | .497 | 21584 |
| .298 | 12942 | .348 | 15113 | .398 | 17285 | .448 | 19456 | .498 | 21628 |
| .299 | 12985 | .349 | 15157 | .399 | 17328 | .449 | 19500 | .499 | 21671 |
| 0.300 | 13029 | 0.350 | 15200 | 0.400 | 17372 | 0.450 | 19543 | 0.500 | 21715 |
| n | p | n | p | n | p | n | p | n | p |

TABLE V

NATURAL LOGARITHMS

NOTE.—In Table V, for u greater than 158, linear interpolation of $\log u$ suffices to give a value whose error is not greater than one unit in the last place.

Natural Logarithms.

| u | log _e u | ∞ F ₀ ' | u | log _e u | ∞ F ₀ ' | u | log _e u | ∞ F ₀ ' | u | log _e u | ∞ F ₀ ' |
|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|
| 0 | —∞ | ∞ | 50 | 3.91202 | 2000 | 100 | 4.60517 | 1000 | 150 | 5.01064 | 667 |
| 1 | 0.00000 | 100000 | 51 | 3.93183 | 1961 | 101 | 4.61512 | 990 | 151 | 5.01728 | 662 |
| 2 | 0.69315 | 50000 | 52 | 3.95124 | 1923 | 102 | 4.62497 | 980 | 152 | 5.02388 | 658 |
| 3 | 1.09861 | 33333 | 53 | 3.97029 | 1887 | 103 | 4.63473 | 971 | 153 | 5.03044 | 654 |
| 4 | 1.38629 | 25000 | 54 | 3.98898 | 1852 | 104 | 4.64439 | 962 | 154 | 5.03695 | 649 |
| 5 | 1.60944 | 20000 | 55 | 4.00733 | 1818 | 105 | 4.65396 | 952 | 155 | 5.04343 | 645 |
| 6 | 1.79176 | 16667 | 56 | 4.02535 | 1786 | 106 | 4.66344 | 943 | 156 | 5.04986 | 641 |
| 7 | 1.94591 | 14286 | 57 | 4.04305 | 1754 | 107 | 4.67283 | 935 | 157 | 5.05625 | 637 |
| 8 | 2.07944 | 12500 | 58 | 4.06044 | 1724 | 108 | 4.68213 | 926 | 158 | 5.06260 | 633 |
| 9 | 2.19722 | 11111 | 59 | 4.07754 | 1695 | 109 | 4.69135 | 917 | 159 | 5.06890 | 629 |
| 10 | 2.30259 | 10000 | 60 | 4.09434 | 1667 | 110 | 4.70048 | 909 | 160 | 5.07517 | 625 |
| 11 | 2.39790 | 9091 | 61 | 4.11087 | 1639 | 111 | 4.70953 | 901 | 161 | 5.08140 | 621 |
| 12 | 2.48491 | 8333 | 62 | 4.12713 | 1613 | 112 | 4.71850 | 893 | 162 | 5.08760 | 617 |
| 13 | 2.56495 | 7692 | 63 | 4.14313 | 1587 | 113 | 4.72739 | 885 | 163 | 5.09375 | 613 |
| 14 | 2.63906 | 7143 | 64 | 4.15888 | 1562 | 114 | 4.73620 | 877 | 164 | 5.09987 | 610 |
| 15 | 2.70805 | 6667 | 65 | 4.17439 | 1538 | 115 | 4.74493 | 870 | 165 | 5.10595 | 606 |
| 16 | 2.77259 | 6250 | 66 | 4.18965 | 1515 | 116 | 4.75359 | 862 | 166 | 5.11199 | 602 |
| 17 | 2.83321 | 5882 | 67 | 4.20469 | 1493 | 117 | 4.76217 | 855 | 167 | 5.11799 | 599 |
| 18 | 2.89037 | 5556 | 68 | 4.21951 | 1471 | 118 | 4.77068 | 847 | 168 | 5.12396 | 595 |
| 19 | 2.94444 | 5263 | 69 | 4.23411 | 1449 | 119 | 4.77912 | 840 | 169 | 5.12990 | 592 |
| 20 | 2.99573 | 5000 | 70 | 4.24850 | 1429 | 120 | 4.78749 | 833 | 170 | 5.13580 | 588 |
| 21 | 3.04452 | 4762 | 71 | 4.26268 | 1408 | 121 | 4.79579 | 826 | 171 | 5.14166 | 585 |
| 22 | 3.09104 | 4545 | 72 | 4.27667 | 1389 | 122 | 4.80402 | 820 | 172 | 5.14749 | 581 |
| 23 | 3.13549 | 4348 | 73 | 4.29046 | 1370 | 123 | 4.81218 | 813 | 173 | 5.15329 | 578 |
| 24 | 3.17805 | 4167 | 74 | 4.30407 | 1351 | 124 | 4.82028 | 806 | 174 | 5.15906 | 575 |
| 25 | 3.21888 | 4000 | 75 | 4.31749 | 1333 | 125 | 4.82831 | 800 | 175 | 5.16479 | 571 |
| 26 | 3.25810 | 3846 | 76 | 4.33073 | 1316 | 126 | 4.83628 | 794 | 176 | 5.17048 | 568 |
| 27 | 3.29584 | 3704 | 77 | 4.34381 | 1299 | 127 | 4.84419 | 787 | 177 | 5.17615 | 565 |
| 28 | 3.33220 | 3571 | 78 | 4.35671 | 1282 | 128 | 4.85203 | 781 | 178 | 5.18178 | 562 |
| 29 | 3.36730 | 3448 | 79 | 4.36945 | 1266 | 129 | 4.85981 | 775 | 179 | 5.18739 | 559 |
| 30 | 3.40120 | 3333 | 80 | 4.38203 | 1250 | 130 | 4.86753 | 769 | 180 | 5.19296 | 556 |
| 31 | 3.43399 | 3226 | 81 | 4.39445 | 1235 | 131 | 4.87520 | 763 | 181 | 5.19850 | 552 |
| 32 | 3.46574 | 3125 | 82 | 4.40672 | 1220 | 132 | 4.88280 | 758 | 182 | 5.20401 | 549 |
| 33 | 3.49651 | 3030 | 83 | 4.41884 | 1205 | 133 | 4.89035 | 752 | 183 | 5.20949 | 546 |
| 34 | 3.52636 | 2941 | 84 | 4.43082 | 1190 | 134 | 4.89784 | 746 | 184 | 5.21494 | 543 |
| 35 | 3.55535 | 2857 | 85 | 4.44265 | 1176 | 135 | 4.90527 | 741 | 185 | 5.22036 | 541 |
| 36 | 3.58352 | 2778 | 86 | 4.45435 | 1163 | 136 | 4.91265 | 735 | 186 | 5.22575 | 538 |
| 37 | 3.61092 | 2703 | 87 | 4.46591 | 1149 | 137 | 4.91998 | 730 | 187 | 5.23111 | 535 |
| 38 | 3.63759 | 2632 | 88 | 4.47734 | 1136 | 138 | 4.92725 | 725 | 188 | 5.23644 | 532 |
| 39 | 3.66356 | 2564 | 89 | 4.48864 | 1124 | 139 | 4.93447 | 719 | 189 | 5.24175 | 529 |
| 40 | 3.68888 | 2500 | 90 | 4.49981 | 1111 | 140 | 4.94164 | 714 | 190 | 5.24702 | 526 |
| 41 | 3.71357 | 2439 | 91 | 4.51086 | 1099 | 141 | 4.94876 | 709 | 191 | 5.25227 | 524 |
| 42 | 3.73767 | 2381 | 92 | 4.52179 | 1087 | 142 | 4.95583 | 704 | 192 | 5.25750 | 521 |
| 43 | 3.76120 | 2326 | 93 | 4.53260 | 1075 | 143 | 4.96284 | 699 | 193 | 5.26269 | 518 |
| 44 | 3.78419 | 2273 | 94 | 4.54329 | 1064 | 144 | 4.96981 | 694 | 194 | 5.26786 | 515 |
| 45 | 3.80666 | 2222 | 95 | 4.55388 | 1053 | 145 | 4.97673 | 690 | 195 | 5.27300 | 513 |
| 46 | 3.82864 | 2174 | 96 | 4.56435 | 1042 | 146 | 4.98361 | 685 | 196 | 5.27811 | 510 |
| 47 | 3.85015 | 2128 | 97 | 4.57471 | 1031 | 147 | 4.99043 | 680 | 197 | 5.28320 | 508 |
| 48 | 3.87120 | 2083 | 98 | 4.58497 | 1020 | 148 | 4.99721 | 676 | 198 | 5.28827 | 505 |
| 49 | 3.89182 | 2041 | 99 | 4.59512 | 1010 | 149 | 5.00395 | 671 | 199 | 5.29330 | 503 |
| 50 | 3.91202 | 2000 | 100 | 4.60517 | 1000 | 150 | 5.01064 | 667 | 200 | 5.29832 | 500 |
| e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} |

Natural Logarithms.

| u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' |
|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|
| 200 | 5.29832 | 500 | 250 | 5.52146 | 400 | 300 | 5.70378 | 333 | 350 | 5.85793 | 286 |
| 201 | 5.30330 | 498 | 251 | 5.52545 | 398 | 301 | 5.70711 | 332 | 351 | 5.86079 | 285 |
| 202 | 5.30827 | 495 | 252 | 5.52943 | 397 | 302 | 5.71043 | 331 | 352 | 5.86363 | 284 |
| 203 | 5.31321 | 493 | 253 | 5.53339 | 395 | 303 | 5.71373 | 330 | 353 | 5.86647 | 283 |
| 204 | 5.31812 | 490 | 254 | 5.53733 | 394 | 304 | 5.71703 | 329 | 354 | 5.86930 | 282 |
| 205 | 5.32301 | 488 | 255 | 5.54126 | 392 | 305 | 5.72031 | 328 | 355 | 5.87212 | 282 |
| 206 | 5.32788 | 485 | 256 | 5.54518 | 391 | 306 | 5.72359 | 327 | 356 | 5.87493 | 281 |
| 207 | 5.33272 | 483 | 257 | 5.54908 | 389 | 307 | 5.72685 | 326 | 357 | 5.87774 | 280 |
| 208 | 5.33754 | 481 | 258 | 5.55296 | 388 | 308 | 5.73010 | 325 | 358 | 5.88053 | 279 |
| 209 | 5.34233 | 478 | 259 | 5.55683 | 386 | 309 | 5.73334 | 324 | 359 | 5.88332 | 279 |
| 210 | 5.34711 | 476 | 260 | 5.56068 | 385 | 310 | 5.73657 | 323 | 360 | 5.88610 | 278 |
| 211 | 5.35186 | 474 | 261 | 5.56452 | 383 | 311 | 5.73979 | 322 | 361 | 5.88888 | 277 |
| 212 | 5.35659 | 472 | 262 | 5.56834 | 382 | 312 | 5.74300 | 321 | 362 | 5.89164 | 276 |
| 213 | 5.36129 | 469 | 263 | 5.57215 | 380 | 313 | 5.74620 | 319 | 363 | 5.89440 | 275 |
| 214 | 5.36598 | 467 | 264 | 5.57595 | 379 | 314 | 5.74939 | 318 | 364 | 5.89715 | 275 |
| 215 | 5.37064 | 465 | 265 | 5.57973 | 377 | 315 | 5.75257 | 317 | 365 | 5.89990 | 274 |
| 216 | 5.37528 | 463 | 266 | 5.58350 | 376 | 316 | 5.75574 | 316 | 366 | 5.90263 | 273 |
| 217 | 5.37990 | 461 | 267 | 5.58725 | 375 | 317 | 5.75890 | 315 | 367 | 5.90536 | 272 |
| 218 | 5.38450 | 459 | 268 | 5.59099 | 373 | 318 | 5.76205 | 314 | 368 | 5.90808 | 272 |
| 219 | 5.38907 | 457 | 269 | 5.59471 | 372 | 319 | 5.76519 | 313 | 369 | 5.91080 | 271 |
| 220 | 5.39363 | 455 | 270 | 5.59842 | 370 | 320 | 5.76832 | 312 | 370 | 5.91350 | 270 |
| 221 | 5.39816 | 452 | 271 | 5.60212 | 369 | 321 | 5.77144 | 312 | 371 | 5.91620 | 270 |
| 222 | 5.40268 | 450 | 272 | 5.60580 | 368 | 322 | 5.77455 | 311 | 372 | 5.91889 | 269 |
| 223 | 5.40717 | 448 | 273 | 5.60947 | 366 | 323 | 5.77765 | 310 | 373 | 5.92158 | 268 |
| 224 | 5.41165 | 446 | 274 | 5.61313 | 365 | 324 | 5.78074 | 309 | 374 | 5.92426 | 267 |
| 225 | 5.41610 | 444 | 275 | 5.61677 | 364 | 325 | 5.78383 | 308 | 375 | 5.92693 | 267 |
| 226 | 5.42053 | 442 | 276 | 5.62040 | 362 | 326 | 5.78690 | 307 | 376 | 5.92959 | 266 |
| 227 | 5.42495 | 441 | 277 | 5.62402 | 361 | 327 | 5.78996 | 306 | 377 | 5.93225 | 265 |
| 228 | 5.42935 | 439 | 278 | 5.62762 | 360 | 328 | 5.79301 | 305 | 378 | 5.93489 | 265 |
| 229 | 5.43372 | 437 | 279 | 5.63121 | 358 | 329 | 5.79606 | 304 | 379 | 5.93754 | 264 |
| 230 | 5.43808 | 435 | 280 | 5.63479 | 357 | 330 | 5.79909 | 303 | 380 | 5.94017 | 263 |
| 231 | 5.44242 | 433 | 281 | 5.63835 | 356 | 331 | 5.80212 | 302 | 381 | 5.94280 | 262 |
| 232 | 5.44674 | 431 | 282 | 5.64191 | 355 | 332 | 5.80513 | 301 | 382 | 5.94542 | 262 |
| 233 | 5.45104 | 429 | 283 | 5.64545 | 353 | 333 | 5.80814 | 300 | 383 | 5.94803 | 261 |
| 234 | 5.45532 | 427 | 284 | 5.64897 | 352 | 334 | 5.81114 | 299 | 384 | 5.95064 | 260 |
| 235 | 5.45959 | 426 | 285 | 5.65249 | 351 | 335 | 5.81413 | 299 | 385 | 5.95324 | 260 |
| 236 | 5.46383 | 424 | 286 | 5.65599 | 350 | 336 | 5.81711 | 298 | 386 | 5.95584 | 259 |
| 237 | 5.46806 | 422 | 287 | 5.65948 | 348 | 337 | 5.82008 | 297 | 387 | 5.95842 | 258 |
| 238 | 5.47227 | 420 | 288 | 5.66296 | 347 | 338 | 5.82305 | 296 | 388 | 5.96101 | 258 |
| 239 | 5.47646 | 418 | 289 | 5.66643 | 346 | 339 | 5.82600 | 295 | 389 | 5.96358 | 257 |
| 240 | 5.48064 | 417 | 290 | 5.66988 | 345 | 340 | 5.82895 | 294 | 390 | 5.96615 | 256 |
| 241 | 5.48480 | 415 | 291 | 5.67332 | 344 | 341 | 5.83188 | 293 | 391 | 5.96871 | 256 |
| 242 | 5.48894 | 413 | 292 | 5.67675 | 342 | 342 | 5.83481 | 292 | 392 | 5.97126 | 255 |
| 243 | 5.49306 | 412 | 293 | 5.68017 | 341 | 343 | 5.83773 | 292 | 393 | 5.97381 | 254 |
| 244 | 5.49717 | 410 | 294 | 5.68358 | 340 | 344 | 5.84064 | 291 | 394 | 5.97635 | 254 |
| 245 | 5.50126 | 408 | 295 | 5.68698 | 339 | 345 | 5.84354 | 290 | 395 | 5.97889 | 253 |
| 246 | 5.50533 | 407 | 296 | 5.69036 | 338 | 346 | 5.84644 | 289 | 396 | 5.98141 | 253 |
| 247 | 5.50939 | 405 | 297 | 5.69373 | 337 | 347 | 5.84932 | 288 | 397 | 5.98394 | 252 |
| 248 | 5.51343 | 403 | 298 | 5.69709 | 336 | 348 | 5.85220 | 287 | 398 | 5.98645 | 251 |
| 249 | 5.51745 | 402 | 299 | 5.70044 | 334 | 349 | 5.85507 | 287 | 399 | 5.98896 | 251 |
| 250 | 5.52146 | 400 | 300 | 5.70378 | 333 | 350 | 5.85793 | 286 | 400 | 5.99146 | 250 |
| e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} |

Natural Logarithms.

| u | log <u>u</u> | $\omega F_0'$ | u | log <u>u</u> | $\omega F_0'$ | u | log <u>u</u> | $\omega F_0'$ | u | log <u>u</u> | $\omega F_0'$ |
|-------|--------------|---------------|-------|--------------|---------------|-------|--------------|---------------|-------|--------------|---------------|
| 400 | 5.99146 | 250 | 450 | 6.10925 | 222 | 500 | 6.21461 | 200 | 550 | 6.30992 | 182 |
| 401 | 5.99396 | 249 | 451 | 6.11147 | 222 | 501 | 6.21661 | 200 | 551 | 6.31173 | 181 |
| 402 | 5.99645 | 249 | 452 | 6.11368 | 221 | 502 | 6.21860 | 199 | 552 | 6.31355 | 181 |
| 403 | 5.99894 | 248 | 453 | 6.11589 | 221 | 503 | 6.22059 | 199 | 553 | 6.31536 | 181 |
| 404 | 6.00141 | 248 | 454 | 6.11810 | 220 | 504 | 6.22258 | 198 | 554 | 6.31716 | 181 |
| 405 | 6.00389 | 247 | 455 | 6.12030 | 220 | 505 | 6.22456 | 198 | 555 | 6.31897 | 180 |
| 406 | 6.00635 | 246 | 456 | 6.12249 | 219 | 506 | 6.22654 | 198 | 556 | 6.32077 | 180 |
| 407 | 6.00881 | 246 | 457 | 6.12468 | 219 | 507 | 6.22851 | 197 | 557 | 6.32257 | 180 |
| 408 | 6.01127 | 245 | 458 | 6.12687 | 218 | 508 | 6.23048 | 197 | 558 | 6.32436 | 179 |
| 409 | 6.01372 | 244 | 459 | 6.12905 | 218 | 509 | 6.23245 | 196 | 559 | 6.32615 | 179 |
| 410 | 6.01616 | 244 | 460 | 6.13123 | 217 | 510 | 6.23441 | 196 | 560 | 6.32794 | 179 |
| 411 | 6.01859 | 243 | 461 | 6.13340 | 217 | 511 | 6.23637 | 196 | 561 | 6.32972 | 178 |
| 412 | 6.02102 | 243 | 462 | 6.13556 | 216 | 512 | 6.23832 | 195 | 562 | 6.33150 | 178 |
| 413 | 6.02345 | 242 | 463 | 6.13773 | 216 | 513 | 6.24028 | 195 | 563 | 6.33328 | 178 |
| 414 | 6.02587 | 242 | 464 | 6.13988 | 216 | 514 | 6.24222 | 195 | 564 | 6.33505 | 177 |
| 415 | 6.02828 | 241 | 465 | 6.14204 | 215 | 515 | 6.24417 | 194 | 565 | 6.33683 | 177 |
| 416 | 6.03069 | 240 | 466 | 6.14419 | 215 | 516 | 6.24611 | 194 | 566 | 6.33859 | 177 |
| 417 | 6.03309 | 240 | 467 | 6.14633 | 214 | 517 | 6.24804 | 193 | 567 | 6.34036 | 176 |
| 418 | 6.03548 | 239 | 468 | 6.14847 | 214 | 518 | 6.24998 | 193 | 568 | 6.34212 | 176 |
| 419 | 6.03787 | 239 | 469 | 6.15060 | 213 | 519 | 6.25190 | 193 | 569 | 6.34388 | 176 |
| 420 | 6.04025 | 238 | 470 | 6.15273 | 213 | 520 | 6.25383 | 192 | 570 | 6.34564 | 175 |
| 421 | 6.04263 | 238 | 471 | 6.15486 | 212 | 521 | 6.25575 | 192 | 571 | 6.34739 | 175 |
| 422 | 6.04501 | 237 | 472 | 6.15698 | 212 | 522 | 6.25767 | 192 | 572 | 6.34914 | 175 |
| 423 | 6.04737 | 236 | 473 | 6.15910 | 211 | 523 | 6.25958 | 191 | 573 | 6.35089 | 175 |
| 424 | 6.04973 | 236 | 474 | 6.16121 | 211 | 524 | 6.26149 | 191 | 574 | 6.35263 | 174 |
| 425 | 6.05209 | 235 | 475 | 6.16331 | 211 | 525 | 6.26340 | 190 | 575 | 6.35437 | 174 |
| 426 | 6.05444 | 235 | 476 | 6.16542 | 210 | 526 | 6.26530 | 190 | 576 | 6.35611 | 174 |
| 427 | 6.05678 | 234 | 477 | 6.16752 | 210 | 527 | 6.26720 | 190 | 577 | 6.35784 | 173 |
| 428 | 6.05912 | 234 | 478 | 6.16961 | 209 | 528 | 6.26910 | 189 | 578 | 6.35957 | 173 |
| 429 | 6.06146 | 233 | 479 | 6.17170 | 209 | 529 | 6.27099 | 189 | 579 | 6.36130 | 173 |
| 430 | 6.06379 | 233 | 480 | 6.17379 | 208 | 530 | 6.27288 | 189 | 580 | 6.36303 | 172 |
| 431 | 6.06611 | 232 | 481 | 6.17587 | 208 | 531 | 6.27476 | 188 | 581 | 6.36475 | 172 |
| 432 | 6.06843 | 231 | 482 | 6.17794 | 207 | 532 | 6.27664 | 188 | 582 | 6.36647 | 172 |
| 433 | 6.07074 | 231 | 483 | 6.18002 | 207 | 533 | 6.27852 | 188 | 583 | 6.36819 | 172 |
| 434 | 6.07304 | 230 | 484 | 6.18208 | 207 | 534 | 6.28040 | 187 | 584 | 6.36990 | 171 |
| 435 | 6.07535 | 230 | 485 | 6.18415 | 206 | 535 | 6.28227 | 187 | 585 | 6.37161 | 171 |
| 436 | 6.07764 | 229 | 486 | 6.18621 | 206 | 536 | 6.28413 | 187 | 586 | 6.37332 | 171 |
| 437 | 6.07993 | 229 | 487 | 6.18826 | 205 | 537 | 6.28600 | 186 | 587 | 6.37502 | 170 |
| 438 | 6.08222 | 228 | 488 | 6.19032 | 205 | 538 | 6.28786 | 186 | 588 | 6.37673 | 170 |
| 439 | 6.08450 | 228 | 489 | 6.19236 | 204 | 539 | 6.28972 | 186 | 589 | 6.37843 | 170 |
| 440 | 6.08677 | 227 | 490 | 6.19441 | 204 | 540 | 6.29157 | 185 | 590 | 6.38012 | 169 |
| 441 | 6.08904 | 227 | 491 | 6.19644 | 204 | 541 | 6.29342 | 185 | 591 | 6.38182 | 169 |
| 442 | 6.09131 | 226 | 492 | 6.19848 | 203 | 542 | 6.29527 | 185 | 592 | 6.38351 | 169 |
| 443 | 6.09357 | 226 | 493 | 6.20051 | 203 | 543 | 6.29711 | 184 | 593 | 6.38519 | 169 |
| 444 | 6.09582 | 225 | 494 | 6.20254 | 202 | 544 | 6.29895 | 184 | 594 | 6.38688 | 168 |
| 445 | 6.09807 | 225 | 495 | 6.20456 | 202 | 545 | 6.30079 | 183 | 595 | 6.38856 | 168 |
| 446 | 6.10032 | 224 | 496 | 6.20658 | 202 | 546 | 6.30262 | 183 | 596 | 6.39024 | 168 |
| 447 | 6.10256 | 224 | 497 | 6.20859 | 201 | 547 | 6.30445 | 183 | 597 | 6.39192 | 168 |
| 448 | 6.10479 | 223 | 498 | 6.21060 | 201 | 548 | 6.30628 | 182 | 598 | 6.39359 | 167 |
| 449 | 6.10702 | 223 | 499 | 6.21261 | 200 | 549 | 6.30810 | 182 | 599 | 6.39526 | 167 |
| 450 | 6.10925 | 222 | 500 | 6.21461 | 200 | 550 | 6.30992 | 182 | 600 | 6.39693 | 167 |
| e^x | x | e^{-x} | e^x | x | e^{-x} | e^x | x | e^{-x} | e^x | x | e^{-x} |

Natural Logarithms.

| u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' |
|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|
| 600 | 6.39693 | 167 | 650 | 6.47697 | 154 | 700 | 6.55108 | 143 | 750 | 6.62007 | 133 |
| 601 | 6.39859 | 166 | 651 | 6.47851 | 154 | 701 | 6.55251 | 143 | 751 | 6.62141 | 133 |
| 602 | 6.40026 | 166 | 652 | 6.48004 | 153 | 702 | 6.55393 | 142 | 752 | 6.62274 | 133 |
| 603 | 6.40192 | 166 | 653 | 6.48158 | 153 | 703 | 6.55536 | 142 | 753 | 6.62407 | 133 |
| 604 | 6.40357 | 166 | 654 | 6.48311 | 153 | 704 | 6.55678 | 142 | 754 | 6.62539 | 133 |
| 605 | 6.40523 | 165 | 655 | 6.48464 | 153 | 705 | 6.55820 | 142 | 755 | 6.62672 | 132 |
| 606 | 6.40688 | 165 | 656 | 6.48616 | 152 | 706 | 6.55962 | 142 | 756 | 6.62804 | 132 |
| 607 | 6.40853 | 165 | 657 | 6.48768 | 152 | 707 | 6.56103 | 141 | 757 | 6.62936 | 132 |
| 608 | 6.41017 | 164 | 658 | 6.48920 | 152 | 708 | 6.56244 | 141 | 758 | 6.63068 | 132 |
| 609 | 6.41182 | 164 | 659 | 6.49072 | 152 | 709 | 6.56386 | 141 | 759 | 6.63200 | 132 |
| 610 | 6.41346 | 164 | 660 | 6.49224 | 152 | 710 | 6.56526 | 141 | 760 | 6.63332 | 132 |
| 611 | 6.41510 | 164 | 661 | 6.49375 | 151 | 711 | 6.56667 | 141 | 761 | 6.63463 | 131 |
| 612 | 6.41673 | 163 | 662 | 6.49527 | 151 | 712 | 6.56808 | 140 | 762 | 6.63595 | 131 |
| 613 | 6.41836 | 163 | 663 | 6.49677 | 151 | 713 | 6.56948 | 140 | 763 | 6.63726 | 131 |
| 614 | 6.41999 | 163 | 664 | 6.49828 | 151 | 714 | 6.57088 | 140 | 764 | 6.63857 | 131 |
| 615 | 6.42162 | 163 | 665 | 6.49979 | 150 | 715 | 6.57228 | 140 | 765 | 6.63988 | 131 |
| 616 | 6.42325 | 162 | 666 | 6.50129 | 150 | 716 | 6.57368 | 140 | 766 | 6.64118 | 131 |
| 617 | 6.42487 | 162 | 667 | 6.50279 | 150 | 717 | 6.57508 | 139 | 767 | 6.64249 | 130 |
| 618 | 6.42649 | 162 | 668 | 6.50429 | 150 | 718 | 6.57647 | 139 | 768 | 6.64379 | 130 |
| 619 | 6.42811 | 162 | 669 | 6.50578 | 149 | 719 | 6.57786 | 139 | 769 | 6.64509 | 130 |
| 620 | 6.42972 | 161 | 670 | 6.50728 | 149 | 720 | 6.57925 | 139 | 770 | 6.64639 | 130 |
| 621 | 6.43133 | 161 | 671 | 6.50877 | 149 | 721 | 6.58064 | 139 | 771 | 6.64769 | 130 |
| 622 | 6.43294 | 161 | 672 | 6.51026 | 149 | 722 | 6.58203 | 139 | 772 | 6.64898 | 130 |
| 623 | 6.43455 | 161 | 673 | 6.51175 | 149 | 723 | 6.58341 | 138 | 773 | 6.65028 | 129 |
| 624 | 6.43615 | 160 | 674 | 6.51323 | 148 | 724 | 6.58479 | 138 | 774 | 6.65157 | 129 |
| 625 | 6.43775 | 160 | 675 | 6.51471 | 148 | 725 | 6.58617 | 138 | 775 | 6.65286 | 129 |
| 626 | 6.43935 | 160 | 676 | 6.51619 | 148 | 726 | 6.58755 | 138 | 776 | 6.65415 | 129 |
| 627 | 6.44095 | 159 | 677 | 6.51767 | 148 | 727 | 6.58893 | 138 | 777 | 6.65544 | 129 |
| 628 | 6.44254 | 159 | 678 | 6.51915 | 147 | 728 | 6.59030 | 137 | 778 | 6.65673 | 129 |
| 629 | 6.44413 | 159 | 679 | 6.52062 | 147 | 729 | 6.59167 | 137 | 779 | 6.65801 | 128 |
| 630 | 6.44572 | 159 | 680 | 6.52209 | 147 | 730 | 6.59304 | 137 | 780 | 6.65929 | 128 |
| 631 | 6.44731 | 158 | 681 | 6.52356 | 147 | 731 | 6.59441 | 137 | 781 | 6.66058 | 128 |
| 632 | 6.44889 | 158 | 682 | 6.52503 | 147 | 732 | 6.59578 | 137 | 782 | 6.66185 | 128 |
| 633 | 6.45047 | 158 | 683 | 6.52649 | 146 | 733 | 6.59715 | 136 | 783 | 6.66313 | 128 |
| 634 | 6.45205 | 158 | 684 | 6.52796 | 146 | 734 | 6.59851 | 136 | 784 | 6.66441 | 128 |
| 635 | 6.45362 | 157 | 685 | 6.52942 | 146 | 735 | 6.59987 | 136 | 785 | 6.66568 | 127 |
| 636 | 6.45520 | 157 | 686 | 6.53088 | 146 | 736 | 6.60123 | 136 | 786 | 6.66696 | 127 |
| 637 | 6.45677 | 157 | 687 | 6.53233 | 146 | 737 | 6.60259 | 136 | 787 | 6.66823 | 127 |
| 638 | 6.45834 | 157 | 688 | 6.53379 | 145 | 738 | 6.60394 | 136 | 788 | 6.66950 | 127 |
| 639 | 6.45990 | 156 | 689 | 6.53524 | 145 | 739 | 6.60530 | 135 | 789 | 6.67077 | 127 |
| 640 | 6.46147 | 156 | 690 | 6.53669 | 145 | 740 | 6.60665 | 135 | 790 | 6.67203 | 127 |
| 641 | 6.46303 | 156 | 691 | 6.53814 | 145 | 741 | 6.60800 | 135 | 791 | 6.67330 | 126 |
| 642 | 6.46459 | 156 | 692 | 6.53959 | 145 | 742 | 6.60935 | 135 | 792 | 6.67456 | 126 |
| 643 | 6.46614 | 156 | 693 | 6.54103 | 144 | 743 | 6.61070 | 135 | 793 | 6.67582 | 126 |
| 644 | 6.46770 | 155 | 694 | 6.54247 | 144 | 744 | 6.61204 | 134 | 794 | 6.67708 | 126 |
| 645 | 6.46925 | 155 | 695 | 6.54391 | 144 | 745 | 6.61338 | 134 | 795 | 6.67834 | 126 |
| 646 | 6.47080 | 155 | 696 | 6.54535 | 144 | 746 | 6.61473 | 134 | 796 | 6.67960 | 126 |
| 647 | 6.47235 | 155 | 697 | 6.54679 | 143 | 747 | 6.61607 | 134 | 797 | 6.68085 | 125 |
| 648 | 6.47389 | 154 | 698 | 6.54822 | 143 | 748 | 6.61740 | 134 | 798 | 6.68211 | 125 |
| 649 | 6.47543 | 154 | 699 | 6.54965 | 143 | 749 | 6.61874 | 134 | 799 | 6.68336 | 125 |
| 650 | 6.47697 | 154 | 700 | 6.55108 | 143 | 750 | 6.62007 | 133 | 800 | 6.68461 | 125 |
| e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} |

Natural Logarithms.

| u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ | u | log _e u | ω F ₀ ' | u | log _e u | ω F ₀ ' |
|----------------|--------------------|--------------------|----------------|--------------------|------------------|----------------|--------------------|--------------------|----------------|--------------------|--------------------|
| 800 | 6.68461 | 125 | 850 | 6.74524 | 118 | 900 | 6.80239 | 111 | 950 | 6.85646 | 105 |
| 801 | 6.68586 | 125 | 851 | 6.74641 | 118 | 901 | 6.80351 | 111 | 951 | 6.85751 | 105 |
| 802 | 6.68711 | 125 | 852 | 6.74759 | 117 | 902 | 6.80461 | 111 | 952 | 6.85857 | 105 |
| 803 | 6.68835 | 125 | 853 | 6.74876 | 117 | 903 | 6.80572 | 111 | 953 | 6.85961 | 105 |
| 804 | 6.68960 | 124 | 854 | 6.74993 | 117 | 904 | 6.80683 | 111 | 954 | 6.86066 | 105 |
| 805 | 6.69084 | 124 | 855 | 6.75110 | 117 | 905 | 6.80793 | 110 | 955 | 6.86171 | 105 |
| 806 | 6.69208 | 124 | 856 | 6.75227 | 117 | 906 | 6.80904 | 110 | 956 | 6.86276 | 105 |
| 807 | 6.69332 | 124 | 857 | 6.75344 | 117 | 907 | 6.81014 | 110 | 957 | 6.86380 | 104 |
| 808 | 6.69456 | 124 | 858 | 6.75460 | 117 | 908 | 6.81124 | 110 | 958 | 6.86485 | 104 |
| 809 | 6.69580 | 124 | 859 | 6.75577 | 116 | 909 | 6.81235 | 110 | 959 | 6.86589 | 104 |
| 810 | 6.69703 | 123 | 860 | 6.75693 | 116 | 910 | 6.81344 | 110 | 960 | 6.86693 | 104 |
| 811 | 6.69827 | 123 | 861 | 6.75809 | 116 | 911 | 6.81454 | 110 | 961 | 6.86797 | 104 |
| 812 | 6.69950 | 123 | 862 | 6.75926 | 116 | 912 | 6.81564 | 110 | 962 | 6.86901 | 104 |
| 813 | 6.70073 | 123 | 863 | 6.76041 | 116 | 913 | 6.81674 | 110 | 963 | 6.87005 | 104 |
| 814 | 6.70196 | 123 | 864 | 6.76157 | 116 | 914 | 6.81783 | 109 | 964 | 6.87109 | 104 |
| 815 | 6.70319 | 123 | 865 | 6.76273 | 116 | 915 | 6.81892 | 109 | 965 | 6.87213 | 104 |
| 816 | 6.70441 | 123 | 866 | 6.76388 | 115 | 916 | 6.82002 | 109 | 966 | 6.87316 | 104 |
| 817 | 6.70564 | 122 | 867 | 6.76504 | 115 | 917 | 6.82111 | 109 | 967 | 6.87420 | 103 |
| 818 | 6.70686 | 122 | 868 | 6.76619 | 115 | 918 | 6.82220 | 109 | 968 | 6.87523 | 103 |
| 819 | 6.70808 | 122 | 869 | 6.76734 | 115 | 919 | 6.82329 | 109 | 969 | 6.87626 | 103 |
| 820 | 6.70930 | 122 | 870 | 6.76849 | 115 | 920 | 6.82437 | 109 | 970 | 6.87730 | 103 |
| 821 | 6.71052 | 122 | 871 | 6.76964 | 115 | 921 | 6.82546 | 109 | 971 | 6.87833 | 103 |
| 822 | 6.71174 | 122 | 872 | 6.77079 | 115 | 922 | 6.82655 | 108 | 972 | 6.87936 | 103 |
| 823 | 6.71296 | 122 | 873 | 6.77194 | 115 | 923 | 6.82763 | 108 | 973 | 6.88038 | 103 |
| 824 | 6.71417 | 121 | 874 | 6.77308 | 114 | 924 | 6.82871 | 108 | 974 | 6.88141 | 103 |
| 825 | 6.71538 | 121 | 875 | 6.77422 | 114 | 925 | 6.82979 | 108 | 975 | 6.88244 | 103 |
| 826 | 6.71659 | 121 | 876 | 6.77537 | 114 | 926 | 6.83087 | 108 | 976 | 6.88346 | 102 |
| 827 | 6.71780 | 121 | 877 | 6.77651 | 114 | 927 | 6.83195 | 108 | 977 | 6.88449 | 102 |
| 828 | 6.71901 | 121 | 878 | 6.77765 | 114 | 928 | 6.83303 | 108 | 978 | 6.88551 | 102 |
| 829 | 6.72022 | 121 | 879 | 6.77878 | 114 | 929 | 6.83411 | 108 | 979 | 6.88653 | 102 |
| 830 | 6.72143 | 120 | 880 | 6.77992 | 114 | 930 | 6.83518 | 108 | 980 | 6.88755 | 102 |
| 831 | 6.72263 | 120 | 881 | 6.78106 | 114 | 931 | 6.83626 | 107 | 981 | 6.88857 | 102 |
| 832 | 6.72383 | 120 | 882 | 6.78219 | 113 | 932 | 6.83733 | 107 | 982 | 6.88959 | 102 |
| 833 | 6.72503 | 120 | 883 | 6.78333 | 113 | 933 | 6.83841 | 107 | 983 | 6.89061 | 102 |
| 834 | 6.72623 | 120 | 884 | 6.78446 | 113 | 934 | 6.83948 | 107 | 984 | 6.89163 | 102 |
| 835 | 6.72743 | 120 | 885 | 6.78559 | 113 | 935 | 6.84055 | 107 | 985 | 6.89264 | 102 |
| 836 | 6.72863 | 120 | 886 | 6.78672 | 113 | 936 | 6.84162 | 107 | 986 | 6.89366 | 101 |
| 837 | 6.72982 | 119 | 887 | 6.78784 | 113 | 937 | 6.84268 | 107 | 987 | 6.89467 | 101 |
| 838 | 6.73102 | 119 | 888 | 6.78897 | 113 | 938 | 6.84375 | 107 | 988 | 6.89568 | 101 |
| 839 | 6.73221 | 119 | 889 | 6.79010 | 112 | 939 | 6.84482 | 106 | 989 | 6.89669 | 101 |
| 840 | 6.73340 | 119 | 890 | 6.79122 | 112 | 940 | 6.84588 | 106 | 990 | 6.89770 | 101 |
| 841 | 6.73459 | 119 | 891 | 6.79234 | 112 | 941 | 6.84694 | 106 | 991 | 6.89871 | 101 |
| 842 | 6.73578 | 119 | 892 | 6.79347 | 112 | 942 | 6.84801 | 106 | 992 | 6.89972 | 101 |
| 843 | 6.73697 | 119 | 893 | 6.79459 | 112 | 943 | 6.84907 | 106 | 993 | 6.90073 | 101 |
| 844 | 6.73815 | 118 | 894 | 6.79571 | 112 | 944 | 6.85013 | 106 | 994 | 6.90174 | 101 |
| 845 | 6.73934 | 118 | 895 | 6.79682 | 112 | 945 | 6.85118 | 106 | 995 | 6.90274 | 101 |
| 846 | 6.74052 | 118 | 896 | 6.79794 | 112 | 946 | 6.85224 | 106 | 996 | 6.90375 | 100 |
| 847 | 6.74170 | 118 | 897 | 6.79906 | 111 | 947 | 6.85330 | 106 | 997 | 6.90475 | 100 |
| 848 | 6.74288 | 118 | 898 | 6.80017 | 111 | 948 | 6.85435 | 105 | 998 | 6.90575 | 100 |
| 849 | 6.74406 | 118 | 899 | 6.80128 | 111 | 949 | 6.85541 | 105 | 999 | 6.90675 | 100 |
| 850 | 6.74524 | 118 | 900 | 6.80239 | 111 | 950 | 6.85646 | 105 | 1000 | 6.90776 | 100 |
| e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} | e ^x | x | e ^{-x} |

Natural Logarithms.

| u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 1000 | 6.90776 | 1361 | 7.21598 | 1721 | 7.45066 | 2111 | 7.65492 | 2503 | 7.82525 |
| 1009 | 6.91672 | 1367 | 7.22037 | 1723 | 7.45182 | 2113 | 7.65586 | 2521 | 7.83241 |
| 1013 | 6.92067 | 1373 | 7.22475 | 1733 | 7.45761 | 2129 | 7.66341 | 2531 | 7.83637 |
| 1019 | 6.92658 | 1381 | 7.23056 | 1741 | 7.46221 | 2131 | 7.66435 | 2539 | 7.83953 |
| 1021 | 6.92854 | 1399 | 7.24351 | 1747 | 7.46566 | 2137 | 7.66716 | 2543 | 7.84110 |
| 1031 | 6.93828 | 1409 | 7.25064 | 1753 | 7.46908 | 2141 | 7.66903 | 2549 | 7.84346 |
| 1033 | 6.94022 | 1423 | 7.26052 | 1759 | 7.47250 | 2143 | 7.66996 | 2551 | 7.84424 |
| 1039 | 6.94601 | 1427 | 7.26333 | 1777 | 7.48268 | 2153 | 7.67462 | 2557 | 7.84659 |
| 1049 | 6.95559 | 1429 | 7.26473 | 1783 | 7.48605 | 2161 | 7.67833 | 2579 | 7.85516 |
| 1051 | 6.95750 | 1433 | 7.26753 | 1787 | 7.48829 | 2179 | 7.68662 | 2591 | 7.85980 |
| 1061 | 6.96697 | 1439 | 7.27170 | 1789 | 7.48941 | 2203 | 7.69758 | 2593 | 7.86057 |
| 1063 | 6.96885 | 1447 | 7.27725 | 1801 | 7.49610 | 2207 | 7.69939 | 2609 | 7.86672 |
| 1069 | 6.97448 | 1451 | 7.28001 | 1811 | 7.50163 | 2213 | 7.70210 | 2617 | 7.86678 |
| 1087 | 6.99118 | 1453 | 7.28139 | 1823 | 7.50824 | 2221 | 7.70571 | 2621 | 7.87131 |
| 1091 | 6.99485 | 1459 | 7.28551 | 1831 | 7.51262 | 2237 | 7.71289 | 2633 | 7.87588 |
| 1093 | 6.99668 | 1471 | 7.29370 | 1847 | 7.52132 | 2239 | 7.71378 | 2647 | 7.88118 |
| 1097 | 7.00033 | 1481 | 7.30047 | 1861 | 7.52887 | 2243 | 7.71557 | 2657 | 7.88495 |
| 1103 | 7.00579 | 1483 | 7.30182 | 1867 | 7.53209 | 2251 | 7.71913 | 2659 | 7.88571 |
| 1109 | 7.01121 | 1487 | 7.30452 | 1871 | 7.53423 | 2267 | 7.72621 | 2663 | 7.88721 |
| 1117 | 7.01840 | 1489 | 7.30586 | 1873 | 7.53530 | 2269 | 7.72709 | 2671 | 7.89021 |
| 1123 | 7.02376 | 1493 | 7.30854 | 1877 | 7.53743 | 2273 | 7.72886 | 2677 | 7.89245 |
| 1129 | 7.02909 | 1499 | 7.31255 | 1879 | 7.53849 | 2281 | 7.73237 | 2683 | 7.89469 |
| 1151 | 7.04839 | 1511 | 7.32053 | 1889 | 7.54380 | 2287 | 7.73500 | 2687 | 7.89618 |
| 1153 | 7.05012 | 1523 | 7.32844 | 1901 | 7.55014 | 2293 | 7.73762 | 2689 | 7.89692 |
| 1163 | 7.05876 | 1531 | 7.33368 | 1907 | 7.55329 | 2297 | 7.73936 | 2693 | 7.89841 |
| 1171 | 7.06561 | 1543 | 7.34148 | 1913 | 7.55643 | 2309 | 7.74457 | 2699 | 7.90064 |
| 1181 | 7.07412 | 1549 | 7.34536 | 1931 | 7.56579 | 2311 | 7.74544 | 2707 | 7.90360 |
| 1187 | 7.07918 | 1553 | 7.34794 | 1933 | 7.56683 | 2333 | 7.75491 | 2711 | 7.90507 |
| 1193 | 7.08423 | 1559 | 7.35180 | 1949 | 7.57507 | 2339 | 7.75748 | 2713 | 7.90581 |
| 1201 | 7.09091 | 1567 | 7.35692 | 1951 | 7.57610 | 2341 | 7.75833 | 2719 | 7.90802 |
| 1213 | 7.10085 | 1571 | 7.35947 | 1973 | 7.58731 | 2347 | 7.76089 | 2729 | 7.91169 |
| 1217 | 7.10414 | 1579 | 7.36455 | 1979 | 7.59035 | 2351 | 7.76260 | 2731 | 7.91242 |
| 1223 | 7.10906 | 1583 | 7.36708 | 1987 | 7.59438 | 2357 | 7.76514 | 2741 | 7.91608 |
| 1229 | 7.11396 | 1597 | 7.37588 | 1993 | 7.59740 | 2371 | 7.77107 | 2749 | 7.91899 |
| 1231 | 7.11558 | 1601 | 7.37838 | 1997 | 7.59940 | 2377 | 7.77359 | 2753 | 7.92045 |
| 1237 | 7.12044 | 1607 | 7.38212 | 1999 | 7.60040 | 2381 | 7.77528 | 2767 | 7.92552 |
| 1249 | 7.13010 | 1609 | 7.38337 | 2003 | 7.60240 | 2383 | 7.77612 | 2777 | 7.92913 |
| 1259 | 7.13807 | 1613 | 7.38585 | 2011 | 7.60639 | 2389 | 7.77863 | 2789 | 7.93344 |
| 1277 | 7.15227 | 1619 | 7.38956 | 2017 | 7.60937 | 2393 | 7.78030 | 2791 | 7.93416 |
| 1279 | 7.15383 | 1621 | 7.39080 | 2027 | 7.61431 | 2399 | 7.78281 | 2797 | 7.93630 |
| 1283 | 7.15696 | 1627 | 7.39449 | 2029 | 7.61530 | 2411 | 7.78780 | 2801 | 7.93773 |
| 1289 | 7.16162 | 1637 | 7.40062 | 2039 | 7.62021 | 2417 | 7.79028 | 2803 | 7.93845 |
| 1291 | 7.16317 | 1657 | 7.41276 | 2053 | 7.62706 | 2423 | 7.79276 | 2819 | 7.94414 |
| 1297 | 7.16781 | 1663 | 7.41638 | 2063 | 7.63192 | 2437 | 7.79852 | 2833 | 7.94909 |
| 1301 | 7.17089 | 1667 | 7.41878 | 2069 | 7.63482 | 2441 | 7.80016 | 2837 | 7.95050 |
| 1303 | 7.17242 | 1669 | 7.41998 | 2081 | 7.64060 | 2447 | 7.80262 | 2843 | 7.95262 |
| 1307 | 7.17549 | 1693 | 7.43426 | 2083 | 7.64156 | 2459 | 7.80751 | 2851 | 7.95543 |
| 1319 | 7.18463 | 1697 | 7.43662 | 2087 | 7.64348 | 2467 | 7.81076 | 2857 | 7.95753 |
| 1321 | 7.18614 | 1699 | 7.43780 | 2089 | 7.64444 | 2473 | 7.81319 | 2861 | 7.95893 |
| 1327 | 7.19068 | 1709 | 7.44366 | 2099 | 7.64922 | 2477 | 7.81480 | 2879 | 7.96520 |
| e ^x | x | e ^x | x | e ^x | x | e ^x | x | e ^x | x |

Natural Logarithms.

| u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 2887 | 7.96797 | 3323 | 8.10862 | 3709 | 8.21852 | 4129 | 8.32579 | 4561 | 8.42530 |
| 2897 | 7.97143 | 3329 | 8.11043 | 3719 | 8.22121 | 4133 | 8.32676 | 4567 | 8.42661 |
| 2903 | 7.97350 | 3331 | 8.11103 | 3727 | 8.22336 | 4139 | 8.32821 | 4583 | 8.43011 |
| 2909 | 7.97556 | 3343 | 8.11462 | 3733 | 8.22497 | 4153 | 8.33159 | 4591 | 8.43185 |
| 2917 | 7.97831 | 3347 | 8.11582 | 3739 | 8.22657 | 4157 | 8.33255 | 4597 | 8.43316 |
| 2927 | 7.98173 | 3359 | 8.11940 | 3761 | 8.23244 | 4159 | 8.33303 | 4603 | 8.43446 |
| 2959 | 7.98582 | 3361 | 8.11999 | 3767 | 8.23403 | 4177 | 8.33735 | 4621 | 8.43837 |
| 2953 | 7.99058 | 3371 | 8.12296 | 3769 | 8.23456 | 4201 | 8.34308 | 4637 | 8.44182 |
| 2957 | 7.99193 | 3373 | 8.12356 | 3779 | 8.23721 | 4211 | 8.34546 | 4639 | 8.44225 |
| 2963 | 7.99396 | 3389 | 8.12829 | 3793 | 8.24091 | 4217 | 8.34688 | 4643 | 8.44312 |
| 2969 | 7.99598 | 3391 | 8.12888 | 3797 | 8.24197 | 4219 | 8.34735 | 4649 | 8.44441 |
| 2971 | 7.99665 | 3407 | 8.13359 | 3803 | 8.24355 | 4229 | 8.34972 | 4651 | 8.44484 |
| 2999 | 8.00603 | 3413 | 8.13535 | 3821 | 8.24827 | 4231 | 8.35019 | 4657 | 8.44613 |
| 3001 | 8.00670 | 3433 | 8.14119 | 3823 | 8.24879 | 4241 | 8.35255 | 4663 | 8.44741 |
| 3011 | 8.01003 | 3449 | 8.14584 | 3833 | 8.25140 | 4243 | 8.35303 | 4673 | 8.44956 |
| 3019 | 8.01268 | 3457 | 8.14816 | 3847 | 8.25505 | 4253 | 8.35538 | 4679 | 8.45084 |
| 3023 | 8.01400 | 3461 | 8.14931 | 3851 | 8.25609 | 4259 | 8.35679 | 4691 | 8.45340 |
| 3037 | 8.01863 | 3463 | 8.14989 | 3853 | 8.25661 | 4261 | 8.35726 | 4703 | 8.45596 |
| 3041 | 8.01994 | 3467 | 8.15104 | 3863 | 8.25920 | 4271 | 8.35960 | 4721 | 8.45978 |
| 3049 | 8.02257 | 3469 | 8.15162 | 3777 | 8.26282 | 4273 | 8.36007 | 4723 | 8.46020 |
| 3061 | 8.02650 | 3491 | 8.15794 | 3881 | 8.26385 | 4283 | 8.36241 | 4729 | 8.46147 |
| 3067 | 8.02846 | 3499 | 8.16023 | 3889 | 8.26591 | 4289 | 8.36381 | 4733 | 8.46231 |
| 3079 | 8.03236 | 3511 | 8.16366 | 3907 | 8.27053 | 4297 | 8.36567 | 4751 | 8.46611 |
| 3083 | 8.03366 | 3517 | 8.16536 | 3911 | 8.27155 | 4327 | 8.37263 | 4759 | 8.46779 |
| 3089 | 8.03560 | 3527 | 8.16820 | 3917 | 8.27308 | 4337 | 8.37494 | 4783 | 8.47282 |
| 3109 | 8.04206 | 3529 | 8.16877 | 3919 | 8.27359 | 4339 | 8.37540 | 4787 | 8.47366 |
| 3119 | 8.04527 | 3533 | 8.16990 | 3923 | 8.27461 | 4349 | 8.37770 | 4789 | 8.47408 |
| 3121 | 8.04591 | 3539 | 8.17160 | 3929 | 8.27614 | 4357 | 8.37954 | 4793 | 8.47491 |
| 3137 | 8.05102 | 3541 | 8.17216 | 3931 | 8.27665 | 4363 | 8.38092 | 4799 | 8.47616 |
| 3163 | 8.05928 | 3547 | 8.17386 | 3943 | 8.27970 | 4373 | 8.38320 | 4801 | 8.47658 |
| 3167 | 8.06054 | 3557 | 8.17667 | 3947 | 8.28071 | 4391 | 8.38731 | 4813 | 8.47908 |
| 3169 | 8.06117 | 3559 | 8.17723 | 3967 | 8.28577 | 4397 | 8.38868 | 4817 | 8.47991 |
| 3181 | 8.06495 | 3571 | 8.18060 | 3989 | 8.29130 | 4409 | 8.39140 | 4831 | 8.48281 |
| 3187 | 8.06684 | 3581 | 8.18340 | 4001 | 8.29430 | 4421 | 8.39412 | 4861 | 8.48900 |
| 3191 | 8.06809 | 3583 | 8.18396 | 4003 | 8.29480 | 4423 | 8.39457 | 4871 | 8.49105 |
| 3203 | 8.07184 | 3593 | 8.18674 | 4007 | 8.29580 | 4441 | 8.39863 | 4877 | 8.49229 |
| 3209 | 8.07371 | 3607 | 8.19063 | 4013 | 8.29729 | 4447 | 8.39998 | 4889 | 8.49474 |
| 3217 | 8.07620 | 3613 | 8.19229 | 4019 | 8.29879 | 4451 | 8.40088 | 4903 | 8.49760 |
| 3221 | 8.07745 | 3617 | 8.19340 | 4021 | 8.29929 | 4457 | 8.40223 | 4909 | 8.49883 |
| 3229 | 8.07993 | 3623 | 8.19506 | 4027 | 8.30078 | 4463 | 8.40358 | 4919 | 8.50086 |
| 3251 | 8.08672 | 3631 | 8.19726 | 4049 | 8.30623 | 4481 | 8.40760 | 4931 | 8.50330 |
| 3253 | 8.08733 | 3637 | 8.19891 | 4051 | 8.30672 | 4483 | 8.40805 | 4933 | 8.50370 |
| 3257 | 8.08856 | 3643 | 8.20056 | 4057 | 8.30820 | 4493 | 8.41028 | 4937 | 8.50451 |
| 3259 | 8.08918 | 3659 | 8.20495 | 4073 | 8.31214 | 4507 | 8.41339 | 4943 | 8.50573 |
| 3271 | 8.09285 | 3671 | 8.20822 | 4079 | 8.31361 | 4513 | 8.41472 | 4951 | 8.50734 |
| 3299 | 8.10137 | 3673 | 8.20876 | 4091 | 8.31654 | 4517 | 8.41560 | 4957 | 8.50856 |
| 3301 | 8.10198 | 3677 | 8.20985 | 4093 | 8.31703 | 4519 | 8.41605 | 4967 | 8.51057 |
| 3307 | 8.10380 | 3691 | 8.21365 | 4099 | 8.31850 | 4523 | 8.41693 | 4999 | 8.51097 |
| 3313 | 8.10561 | 3697 | 8.21528 | 4111 | 8.32142 | 4547 | 8.42222 | 4973 | 8.51178 |
| 3319 | 8.10742 | 3701 | 8.21636 | 4127 | 8.32531 | 4549 | 8.42266 | 4987 | 8.51459 |
| e ^x | x | e ^x | x | e ^x | x | e ^x | x | e ^x | x |

Natural Logarithms.

| u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 4993 | 8.51579 | 5437 | 8.60098 | 5849 | 8.67403 | 6287 | 8.74624 | 6733 | 8.81478 |
| 4999 | 8.51699 | 5441 | 8.60172 | 5851 | 8.67437 | 6299 | 8.74815 | 6737 | 8.81537 |
| 5003 | 8.51779 | 5443 | 8.60209 | 5857 | 8.67539 | 6301 | 8.74846 | 6761 | 8.81893 |
| 5009 | 8.51899 | 5449 | 8.60319 | 5861 | 8.67608 | 6311 | 8.75005 | 6763 | 8.81922 |
| 5011 | 8.51939 | 5471 | 8.60722 | 5867 | 8.67710 | 6317 | 8.75100 | 6779 | 8.82158 |
| 5021 | 8.52138 | 5477 | 8.60831 | 5869 | 8.67744 | 6323 | 8.75195 | 6781 | 8.82188 |
| 5023 | 8.52178 | 5479 | 8.60868 | 5879 | 8.67914 | 6329 | 8.75290 | 6791 | 8.82335 |
| 5039 | 8.52496 | 5483 | 8.60941 | 5881 | 8.67948 | 6337 | 8.75416 | 6793 | 8.82365 |
| 5051 | 8.52734 | 5501 | 8.61269 | 5897 | 8.68220 | 6343 | 8.75511 | 6803 | 8.82512 |
| 5059 | 8.52892 | 5503 | 8.61305 | 5903 | 8.68322 | 6353 | 8.75668 | 6823 | 8.82805 |
| 5077 | 8.53248 | 5507 | 8.61378 | 5923 | 8.68660 | 6359 | 8.75763 | 6827 | 8.82864 |
| 5081 | 8.53326 | 5519 | 8.61595 | 5927 | 8.68727 | 6361 | 8.75794 | 6829 | 8.82893 |
| 5087 | 8.53444 | 5521 | 8.61631 | 5939 | 8.68930 | 6367 | 8.75888 | 6833 | 8.82952 |
| 5099 | 8.53680 | 5527 | 8.61740 | 5953 | 8.69165 | 6373 | 8.75983 | 6841 | 8.83069 |
| 5101 | 8.53719 | 5531 | 8.61812 | 5981 | 8.69634 | 6379 | 8.76077 | 6857 | 8.83303 |
| 5107 | 8.53837 | 5557 | 8.62281 | 5987 | 8.69735 | 6389 | 8.76233 | 6863 | 8.83390 |
| 5113 | 8.53954 | 5563 | 8.62389 | 6007 | 8.70068 | 6397 | 8.76358 | 6869 | 8.83477 |
| 5119 | 8.54071 | 5569 | 8.62497 | 6011 | 8.70135 | 6421 | 8.76733 | 6871 | 8.83506 |
| 5147 | 8.54617 | 5573 | 8.62569 | 6029 | 8.70434 | 6427 | 8.76826 | 6883 | 8.83681 |
| 5153 | 8.54733 | 5581 | 8.62712 | 6037 | 8.70566 | 6449 | 8.77168 | 6889 | 8.83768 |
| 5167 | 8.55005 | 5591 | 8.62891 | 6043 | 8.70666 | 6451 | 8.77199 | 6907 | 8.84029 |
| 5171 | 8.55082 | 5623 | 8.63462 | 6047 | 8.70732 | 6469 | 8.77478 | 6911 | 8.84087 |
| 5179 | 8.55237 | 5639 | 8.63746 | 6053 | 8.70831 | 6473 | 8.77539 | 6917 | 8.84174 |
| 5189 | 8.55430 | 5641 | 8.63782 | 6067 | 8.71062 | 6481 | 8.77663 | 6947 | 8.84607 |
| 5197 | 8.55584 | 5647 | 8.63888 | 6073 | 8.71161 | 6491 | 8.77817 | 6949 | 8.84635 |
| 5209 | 8.55814 | 5651 | 8.63959 | 6079 | 8.71260 | 6521 | 8.78278 | 6959 | 8.84779 |
| 5227 | 8.56159 | 5653 | 8.63994 | 6089 | 8.71424 | 6529 | 8.78401 | 6961 | 8.84808 |
| 5231 | 8.56236 | 5657 | 8.64065 | 6091 | 8.71457 | 6547 | 8.78676 | 6967 | 8.84894 |
| 5233 | 8.56274 | 5659 | 8.64100 | 6101 | 8.71621 | 6551 | 8.78737 | 6971 | 8.84951 |
| 5237 | 8.56350 | 5669 | 8.64277 | 6113 | 8.71817 | 6553 | 8.78768 | 6977 | 8.85037 |
| 5261 | 8.56808 | 5683 | 8.64523 | 6121 | 8.71948 | 6563 | 8.78920 | 6983 | 8.85123 |
| 5273 | 8.57035 | 5689 | 8.64629 | 6131 | 8.72111 | 6569 | 8.79012 | 6991 | 8.85238 |
| 5279 | 8.57149 | 5693 | 8.64699 | 6133 | 8.72144 | 6571 | 8.79042 | 6997 | 8.85324 |
| 5281 | 8.57187 | 5701 | 8.64840 | 6143 | 8.72307 | 6577 | 8.79133 | 7001 | 8.85381 |
| 5297 | 8.57490 | 5711 | 8.65015 | 6151 | 8.72437 | 6581 | 8.79194 | 7013 | 8.85552 |
| 5303 | 8.57603 | 5717 | 8.65120 | 6163 | 8.72632 | 6599 | 8.79467 | 7019 | 8.85638 |
| 5309 | 8.57716 | 5737 | 8.65469 | 6173 | 8.72794 | 6607 | 8.79588 | 7027 | 8.85752 |
| 5323 | 8.57979 | 5741 | 8.65539 | 6197 | 8.73182 | 6619 | 8.79770 | 7039 | 8.85922 |
| 5333 | 8.58167 | 5743 | 8.65574 | 6199 | 8.73214 | 6637 | 8.80042 | 7043 | 8.85979 |
| 5347 | 8.58429 | 5749 | 8.65678 | 6203 | 8.73279 | 6653 | 8.80282 | 7057 | 8.86178 |
| 5351 | 8.58504 | 5779 | 8.66199 | 6211 | 8.73408 | 6659 | 8.80372 | 7069 | 8.86347 |
| 5381 | 8.59063 | 5783 | 8.66268 | 6217 | 8.73504 | 6661 | 8.80402 | 7079 | 8.86489 |
| 5387 | 8.59174 | 5791 | 8.66406 | 6221 | 8.73569 | 6673 | 8.80582 | 7103 | 8.86827 |
| 5393 | 8.59286 | 5801 | 8.66579 | 6229 | 8.73697 | 6679 | 8.80672 | 7109 | 8.86912 |
| 5399 | 8.59397 | 5807 | 8.66682 | 6247 | 8.73986 | 6689 | 8.80822 | 7121 | 8.87080 |
| 5407 | 8.59545 | 5813 | 8.66785 | 6257 | 8.74146 | 6691 | 8.80852 | 7127 | 8.87165 |
| 5413 | 8.59656 | 5821 | 8.66923 | 6263 | 8.74241 | 6701 | 8.81001 | 7129 | 8.87193 |
| 5417 | 8.59730 | 5827 | 8.67026 | 6269 | 8.74337 | 6703 | 8.81031 | 7151 | 8.87501 |
| 5419 | 8.59767 | 5839 | 8.67231 | 6271 | 8.74369 | 6709 | 8.81121 | 7159 | 8.87613 |
| 5421 | 8.59988 | 5843 | 8.67300 | 6277 | 8.74465 | 6719 | 8.81269 | 7177 | 8.87864 |
| e ^x | x | e ^x | x | e ^x | x | e ^x | x | e ^x | x |

Natural Logarithms.

| u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 7187 | 8.88003 | 7621 | 8.93866 | 8093 | 8.99875 | 8573 | 9.05637 | 9001 | 9.10509 |
| 7193 | 8.88086 | 7639 | 8.94102 | 8101 | 8.99974 | 8581 | 9.05731 | 9007 | 9.10576 |
| 7207 | 8.88281 | 7643 | 8.94155 | 8111 | 9.00098 | 8597 | 9.05917 | 9011 | 9.10620 |
| 7211 | 8.88336 | 7649 | 8.94233 | 8117 | 9.00172 | 8599 | 9.05940 | 9013 | 9.10642 |
| 7213 | 8.88364 | 7669 | 8.94494 | 8123 | 9.00245 | 8609 | 9.06056 | 9029 | 9.10820 |
| 7219 | 8.88447 | 7673 | 8.94546 | 8147 | 9.00541 | 8623 | 9.06219 | 9041 | 9.10953 |
| 7229 | 8.88586 | 7681 | 8.94691 | 8161 | 9.00712 | 8627 | 9.06265 | 9043 | 9.10975 |
| 7237 | 8.88696 | 7687 | 8.94729 | 8167 | 9.00786 | 8629 | 9.06288 | 9049 | 9.11041 |
| 7243 | 8.88779 | 7691 | 8.94781 | 8171 | 9.00835 | 8641 | 9.06427 | 9059 | 9.11151 |
| 7247 | 8.88834 | 7699 | 8.94885 | 8179 | 9.00933 | 8647 | 9.06497 | 9067 | 9.11240 |
| 7253 | 8.88917 | 7703 | 8.94937 | 8191 | 9.01079 | 8663 | 9.06682 | 9091 | 9.11504 |
| 7283 | 8.89330 | 7717 | 8.95118 | 8209 | 9.01299 | 8669 | 9.06751 | 9103 | 9.11636 |
| 7297 | 8.89522 | 7723 | 8.95196 | 8219 | 9.01420 | 8677 | 9.06843 | 9109 | 9.11702 |
| 7307 | 8.89659 | 7727 | 8.95248 | 8221 | 9.01445 | 8681 | 9.06889 | 9127 | 9.11899 |
| 7309 | 8.89686 | 7741 | 8.95429 | 8231 | 9.01566 | 8689 | 9.06981 | 9133 | 9.11965 |
| 7321 | 8.89850 | 7753 | 8.95584 | 8233 | 9.01591 | 8693 | 9.07027 | 9137 | 9.12009 |
| 7331 | 8.89987 | 7757 | 8.95635 | 8237 | 9.01639 | 8699 | 9.07096 | 9151 | 9.12162 |
| 7333 | 8.90014 | 7759 | 8.95661 | 8243 | 9.01712 | 8707 | 9.07188 | 9157 | 9.12227 |
| 7349 | 8.90232 | 7789 | 8.96047 | 8263 | 9.01954 | 8713 | 9.07257 | 9161 | 9.12271 |
| 7351 | 8.90259 | 7793 | 8.96098 | 8269 | 9.02027 | 8719 | 9.07326 | 9173 | 9.12402 |
| 7369 | 8.90504 | 7817 | 8.96406 | 8273 | 9.02075 | 8731 | 9.07464 | 9181 | 9.12489 |
| 7393 | 8.90829 | 7823 | 8.96482 | 8287 | 9.02244 | 8737 | 9.07532 | 9187 | 9.12554 |
| 7411 | 8.91072 | 7829 | 8.96559 | 8291 | 9.02293 | 8741 | 9.07578 | 9199 | 9.12685 |
| 7417 | 8.91153 | 7841 | 8.96712 | 8293 | 9.02317 | 8747 | 9.07647 | 9203 | 9.12728 |
| 7433 | 8.91368 | 7853 | 8.96765 | 8297 | 9.02365 | 8753 | 9.07715 | 9209 | 9.12794 |
| 7451 | 8.91610 | 7867 | 8.97043 | 8311 | 9.02534 | 8761 | 9.07807 | 9221 | 9.12924 |
| 7457 | 8.91691 | 7873 | 8.97119 | 8317 | 9.02606 | 8779 | 9.08012 | 9227 | 9.12989 |
| 7459 | 8.91718 | 7877 | 8.97170 | 8329 | 9.02750 | 8783 | 9.08057 | 9239 | 9.13119 |
| 7477 | 8.91959 | 7879 | 8.97196 | 8353 | 9.03038 | 8803 | 9.08285 | 9241 | 9.13141 |
| 7481 | 8.92012 | 7883 | 8.97246 | 8363 | 9.03157 | 8807 | 9.08330 | 9257 | 9.13314 |
| 7487 | 8.92092 | 7901 | 8.97474 | 8369 | 9.03229 | 8819 | 9.08466 | 9277 | 9.13529 |
| 7489 | 8.92119 | 7907 | 8.97550 | 8377 | 9.03325 | 8821 | 9.08489 | 9281 | 9.13572 |
| 7499 | 8.92252 | 7919 | 8.97702 | 8387 | 9.03444 | 8831 | 9.08602 | 9283 | 9.13594 |
| 7507 | 8.92359 | 7927 | 8.97803 | 8389 | 9.03468 | 8837 | 9.08670 | 9293 | 9.13702 |
| 7517 | 8.92492 | 7933 | 8.97879 | 8419 | 9.03825 | 8839 | 9.08693 | 9311 | 9.13895 |
| 7523 | 8.92572 | 7937 | 8.97929 | 8423 | 9.03872 | 8849 | 9.08806 | 9319 | 9.13981 |
| 7529 | 8.92652 | 7949 | 8.98080 | 8429 | 9.03943 | 8861 | 9.08941 | 9323 | 9.14024 |
| 7537 | 8.92758 | 7951 | 8.98105 | 8431 | 9.03967 | 8863 | 9.08964 | 9337 | 9.14174 |
| 7541 | 8.92811 | 7963 | 8.98256 | 8443 | 9.04109 | 8867 | 9.09009 | 9341 | 9.14217 |
| 7547 | 8.92891 | 7993 | 8.98632 | 8447 | 9.04157 | 8887 | 9.09234 | 9343 | 9.14238 |
| 7549 | 8.92917 | 8009 | 8.98832 | 8461 | 9.04322 | 8893 | 9.09302 | 9349 | 9.14302 |
| 7559 | 8.93049 | 8011 | 8.98857 | 8467 | 9.04393 | 8923 | 9.09639 | 9371 | 9.14538 |
| 7561 | 8.93076 | 8017 | 8.98932 | 8501 | 9.04794 | 8929 | 9.09706 | 9377 | 9.14602 |
| 7573 | 8.93234 | 8039 | 8.99206 | 8513 | 9.04935 | 8933 | 9.09751 | 9391 | 9.14751 |
| 7577 | 8.93287 | 8053 | 8.99380 | 8521 | 9.05029 | 8941 | 9.09840 | 9397 | 9.14815 |
| 7583 | 8.93366 | 8059 | 8.99454 | 8527 | 9.05099 | 8951 | 9.09952 | 9403 | 9.14878 |
| 7589 | 8.93446 | 8069 | 8.99578 | 8537 | 9.05216 | 8963 | 9.10086 | 9413 | 9.14985 |
| 7591 | 8.93472 | 8081 | 8.99727 | 8539 | 9.05240 | 8969 | 9.10153 | 9419 | 9.15048 |
| 7603 | 8.93630 | 8087 | 8.99801 | 8543 | 9.05287 | 8971 | 9.10175 | 9421 | 9.15070 |
| 7607 | 8.93682 | 8089 | 8.99826 | 8563 | 9.05521 | 8999 | 9.10487 | 9431 | 9.15176 |
| e ^x | x | e ^x | x | e ^x | x | e ^x | x | e ^x | x |

Natural Logarithms.

| u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> | u | Log <u>u</u> |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| 9433 | 9.15197 | 9551 | 9.16440 | 9719 | 9.18184 | 9833 | 9.19350 | 9967 | 9.20703 |
| 9437 | 9.15239 | 9587 | 9.16816 | 9721 | 9.18204 | 9839 | 9.19411 | 9973 | 9.20764 |
| 9439 | 9.15261 | 9601 | 9.16962 | 9733 | 9.18328 | 9851 | 9.19533 | 10000 | 9.21034 |
| 9461 | 9.15493 | 9613 | 9.17087 | 9739 | 9.18389 | 9857 | 9.19594 | 100000 | 11.51293 |
| 9463 | 9.15514 | 9619 | 9.17150 | 9743 | 9.18430 | 9859 | 9.19614 | | |
| 9467 | 9.15557 | 9623 | 9.17191 | 9749 | 9.18492 | 9871 | 9.19736 | | |
| 9473 | 9.15620 | 9629 | 9.17253 | 9767 | 9.18676 | 9883 | 9.19857 | | |
| 9479 | 9.15683 | 9631 | 9.17274 | 9769 | 9.18697 | 9887 | 9.19898 | | |
| 9491 | 9.15810 | 9643 | 9.17399 | 9781 | 9.18820 | 9901 | 9.20039 | | |
| 9497 | 9.15873 | 9649 | 9.17461 | 9787 | 9.18881 | 9907 | 9.20100 | | |
| 9511 | 9.16020 | 9661 | 9.17585 | 9791 | 9.18922 | 9923 | 9.20261 | | |
| 9521 | 9.16126 | 9677 | 9.17751 | 9803 | 9.19044 | 9929 | 9.20322 | | |
| 9533 | 9.16251 | 9679 | 9.17771 | 9811 | 9.19126 | 9931 | 9.20342 | | |
| 9539 | 9.16314 | 9689 | 9.17875 | 9817 | 9.19187 | 9941 | 9.20442 | | |
| 9547 | 9.16398 | 9697 | 9.17957 | 9829 | 9.19309 | 9949 | 9.20523 | | |
| e ^x | x | e ^x | x | e ^x | x | e ^x | x | e ^x | x |

Coefficients for Computing,

$$F_{\pm n} = F_0 \pm n\omega \left[F'_0 \pm \frac{n}{2} \alpha_0 + \frac{n^2}{6} \beta_0 \pm \frac{n}{12} \left(\frac{n^2}{2} - 1 \right) \gamma_0 \right].$$

| n | $\frac{n^2}{6}$ | Diff. | $\frac{n}{12} \left(\frac{n^2}{2} - 1 \right)$ | Diff. | n | $\frac{n^2}{6}$ | Diff. | $\frac{n}{12} \left(\frac{n^2}{2} - 1 \right)$ | Diff. |
|------|-----------------|-------|---|-------|------|-----------------|-------|---|-------|
| 0.00 | +0.0000 | 0 | -0.0000 | 8 | 0.25 | +0.0104 | 9 | -0.0202 | 7 |
| .01 | .0000 | 1 | .0008 | 8 | .26 | .0113 | 9 | .0209 | 8 |
| .02 | .0001 | 1 | .0017 | 9 | .27 | .0122 | 9 | .0217 | 7 |
| .03 | .0002 | 1 | .0025 | 8 | .28 | .0131 | 9 | .0224 | 8 |
| .04 | .0003 | 1 | .0033 | 9 | .29 | .0140 | 10 | .0232 | 7 |
| 0.05 | +0.0004 | 2 | +0.0042 | 8 | 0.30 | +0.0150 | 10 | -0.0239 | 7 |
| .06 | .0006 | 2 | .0050 | 8 | .31 | .0160 | 11 | .0246 | 7 |
| .07 | .0008 | 2 | .0058 | 8 | .32 | .0171 | 11 | .0253 | 7 |
| .08 | .0011 | 3 | .0066 | 8 | .33 | .0182 | 11 | .0260 | 7 |
| .09 | .0014 | 3 | .0075 | 8 | .34 | .0193 | 11 | .0267 | 7 |
| 0.10 | +0.0017 | 3 | -0.0083 | 8 | 0.35 | +0.0204 | 12 | -0.0274 | 7 |
| .11 | .0020 | 4 | .0091 | 8 | .36 | .0216 | 12 | .0281 | 6 |
| .12 | .0024 | 4 | .0099 | 8 | .37 | .0228 | 12 | .0287 | 7 |
| .13 | .0028 | 5 | .0107 | 8 | .38 | .0241 | 13 | .0294 | 6 |
| .14 | .0033 | 5 | .0116 | 8 | .39 | .0254 | 13 | .0300 | 7 |
| 0.15 | +0.0038 | 5 | -0.0124 | 8 | 0.40 | +0.0267 | 13 | -0.0307 | 6 |
| .16 | .0043 | 5 | .0132 | 8 | .41 | .0280 | 14 | .0313 | 6 |
| .17 | .0048 | 6 | .0140 | 8 | .42 | .0294 | 14 | .0319 | 6 |
| .18 | .0054 | 6 | .0148 | 7 | .43 | .0308 | 15 | .0325 | 6 |
| .19 | .0060 | 7 | .0155 | 8 | .44 | .0323 | 15 | .0331 | 6 |
| 0.20 | +0.0067 | 7 | -0.0163 | 8 | 0.45 | +0.0338 | 15 | -0.0337 | 6 |
| .21 | .0074 | 7 | .0171 | 8 | .46 | .0353 | 16 | .0343 | 5 |
| .22 | .0081 | 7 | .0179 | 8 | .47 | .0368 | 16 | .0348 | 6 |
| .23 | .0088 | 8 | .0187 | 7 | .48 | .0384 | 16 | .0354 | 5 |
| .24 | .0096 | 8 | .0194 | 8 | .49 | .0400 | 17 | .0359 | 6 |
| 0.25 | +0.0104 | | -0.0202 | | 0.50 | +0.0417 | | -0.0365 | |

TABLE VI

THE GUDERMANNIAN

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.000 | 0.000 0000 | I 0000 | 0 00 00.00 | 206.26 | 0.050 | 0.049 9792 | 9988 | 2 51 48.95 | 206.01 |
| .001 | .001 0000 | I 0000 | 0 03 26.26 | 206.26 | .051 | .050 9779 | 9987 | 2 55 14.95 | 206.00 |
| .002 | .002 0000 | I 0000 | 0 06 52.53 | 206.26 | .052 | .051 9766 | 9986 | 2 58 40.94 | 205.99 |
| .003 | .003 0000 | I 0000 | 0 10 18.79 | 206.26 | .053 | .052 9752 | 9985 | 3 02 06.92 | 205.98 |
| .004 | .004 0000 | I 0000 | 0 13 45.06 | 206.26 | .054 | .053 9738 | 9985 | 3 05 32.89 | 205.96 |
| 0.005 | 0.005 0000 | I 0000 | 0 17 11.32 | 206.26 | 0.055 | 0.054 9723 | 9985 | 3 08 58.85 | 205.95 |
| .006 | .006 0000 | I 0000 | 0 20 37.58 | 206.26 | .056 | .055 9708 | 9984 | 3 12 24.80 | 205.94 |
| .007 | .006 9999 | I 0000 | 0 24 03.84 | 206.26 | .057 | .056 9692 | 9984 | 3 15 50.73 | 205.93 |
| .008 | .007 9999 | I 0000 | 0 27 30.10 | 206.26 | .058 | .057 9675 | 9983 | 3 19 16.66 | 205.92 |
| .009 | .008 9999 | I 0000 | 0 30 56.36 | 206.26 | .059 | .058 9658 | 9983 | 3 22 42.57 | 205.91 |
| 0.010 | 0.009 9998 | 9999 | 0 34 22.61 | 206.25 | 0.060 | 0.059 9640 | 9982 | 3 26 08.47 | 205.89 |
| .011 | .010 9998 | 9999 | 0 37 48.87 | 206.25 | .061 | .060 9622 | 9981 | 3 29 34.36 | 205.88 |
| .012 | .011 9997 | 9999 | 0 41 15.12 | 206.25 | .062 | .061 9603 | 9981 | 3 33 00.23 | 205.87 |
| .013 | .012 9996 | 9999 | 0 44 41.37 | 206.25 | .063 | .062 9584 | 9980 | 3 36 26.10 | 205.86 |
| .014 | .013 9995 | 9999 | 0 48 07.61 | 206.24 | .064 | .063 9564 | 9980 | 3 39 51.94 | 205.84 |
| 0.015 | 0.014 9994 | 9999 | 0 51 33.86 | 206.24 | 0.065 | 0.064 9543 | 9979 | 3 43 17.78 | 205.83 |
| .016 | .015 9993 | 9999 | 0 55 00.10 | 206.24 | .066 | .065 9521 | 9978 | 3 46 43.60 | 205.82 |
| .017 | .016 9992 | 9999 | 0 58 26.33 | 206.23 | .067 | .066 9499 | 9978 | 3 50 09.41 | 205.80 |
| .018 | .017 9990 | 9998 | 1 01 52.57 | 206.23 | .068 | .067 9477 | 9977 | 3 53 35.21 | 205.79 |
| .019 | .018 9989 | 9998 | 1 05 18.80 | 206.23 | .069 | .068 9453 | 9976 | 3 57 00.99 | 205.77 |
| 0.020 | 0.019 9987 | 9998 | 1 08 45.02 | 206.22 | 0.070 | 0.069 9429 | 9976 | 4 00 26.76 | 205.76 |
| .021 | .020 9985 | 9998 | 1 12 11.24 | 206.22 | .071 | .070 9404 | 9975 | 4 03 52.51 | 205.75 |
| .022 | .021 9982 | 9998 | 1 15 37.46 | 206.21 | .072 | .071 9379 | 9974 | 4 07 18.25 | 205.73 |
| .023 | .022 9980 | 9997 | 1 19 03.67 | 206.21 | .073 | .072 9352 | 9973 | 4 10 43.98 | 205.72 |
| .024 | .023 9977 | 9997 | 1 22 29.88 | 206.21 | .074 | .073 9326 | 9973 | 4 14 09.68 | 205.70 |
| 0.025 | 0.024 9974 | 9997 | 1 25 56.08 | 206.20 | 0.075 | 0.074 9298 | 9972 | 4 17 35.38 | 205.69 |
| .026 | .025 9971 | 9997 | 1 29 22.28 | 206.20 | .076 | .075 9269 | 9971 | 4 21 01.06 | 205.67 |
| .027 | .026 9967 | 9996 | 1 32 48.47 | 206.19 | .077 | .076 9240 | 9970 | 4 24 26.72 | 205.65 |
| .028 | .027 9963 | 9996 | 1 36 14.66 | 206.18 | .078 | .077 9210 | 9970 | 4 27 52.37 | 205.64 |
| .029 | .028 9959 | 9996 | 1 39 40.84 | 206.18 | .079 | .078 9180 | 9969 | 4 31 18.00 | 205.62 |
| 0.030 | 0.029 9955 | 9995 | 1 43 07.02 | 206.17 | 0.080 | 0.079 9148 | 9968 | 4 34 43.61 | 205.61 |
| .031 | .030 9950 | 9995 | 1 46 33.19 | 206.17 | .081 | .080 9116 | 9967 | 4 38 09.21 | 205.59 |
| .032 | .031 9945 | 9995 | 1 49 59.35 | 206.16 | .082 | .081 9083 | 9966 | 4 41 34.79 | 205.57 |
| .033 | .032 9940 | 9995 | 1 53 25.50 | 206.15 | .083 | .082 9049 | 9966 | 4 45 00.36 | 205.56 |
| .034 | .033 9935 | 9994 | 1 56 51.65 | 206.15 | .084 | .083 9014 | 9965 | 4 48 25.90 | 205.54 |
| 0.035 | 0.034 9929 | 9994 | 2 00 17.79 | 206.14 | 0.085 | 0.084 8978 | 9964 | 4 51 51.44 | 205.52 |
| .036 | .035 9922 | 9994 | 2 03 43.93 | 206.13 | .086 | .085 8942 | 9963 | 4 55 16.95 | 205.50 |
| .037 | .036 9916 | 9993 | 2 07 10.06 | 206.12 | .087 | .086 8905 | 9962 | 4 58 42.44 | 205.49 |
| .038 | .037 9909 | 9993 | 2 10 36.18 | 206.12 | .088 | .087 8866 | 9961 | 5 02 07.92 | 205.47 |
| .039 | .038 9901 | 9992 | 2 14 02.29 | 206.11 | .089 | .088 8827 | 9961 | 5 05 33.38 | 205.45 |
| 0.040 | 0.039 9893 | 9992 | 2 17 28.39 | 206.10 | 0.090 | 0.089 8787 | 9960 | 5 08 58.82 | 205.43 |
| .041 | .040 9885 | 9992 | 2 20 54.49 | 206.09 | .091 | .090 8747 | 9959 | 5 12 24.25 | 205.41 |
| .042 | .041 9877 | 9991 | 2 24 20.58 | 206.08 | .092 | .091 8705 | 9958 | 5 15 49.65 | 205.39 |
| .043 | .042 9868 | 9991 | 2 27 46.65 | 206.07 | .093 | .092 8662 | 9957 | 5 19 15.03 | 205.38 |
| .044 | .043 9858 | 9990 | 2 31 12.72 | 206.07 | .094 | .093 8619 | 9956 | 5 22 40.40 | 205.36 |
| 0.045 | 0.044 9848 | 9990 | 2 34 38.79 | 206.06 | 0.095 | 0.094 8574 | 9955 | 5 26 05.75 | 205.34 |
| .046 | .045 9838 | 9989 | 2 38 04.84 | 206.05 | .096 | .095 8529 | 9954 | 5 29 31.08 | 205.32 |
| .047 | .046 9827 | 9989 | 2 41 30.88 | 206.04 | .097 | .096 8482 | 9953 | 5 32 56.38 | 205.30 |
| .048 | .047 9816 | 9988 | 2 44 56.91 | 206.03 | .098 | .097 8435 | 9952 | 5 36 21.67 | 205.28 |
| .049 | .048 9804 | 9988 | 2 48 22.93 | 206.02 | .099 | .098 8387 | 9951 | 5 39 46.94 | 205.26 |
| 0.050 | 0.049 9792 | 9988 | 2 51 48.95 | 206.01 | 0.100 | 0.099 8337 | 9950 | 5 43 12.19 | 205.24 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|--|--------------------------------|-------|------------------------------------|--------------------------------|--|--------------------------------|
| | | | [°] ['] ["] | ["] | | | | [°] ['] ["] | ["] |
| 0.100 | 0.099 8337 | 9950 | 5 43 12.19 | 205.24 | 0.150 | 0.149 4406 | 9889 | 8 33 44.35 | 203.97 |
| .101 | .100 8287 | 9949 | 5 46 37.42 | 205.22 | .151 | .150 4294 | 9887 | 8 37 08.30 | 203.94 |
| .102 | .101 8236 | 9948 | 5 50 02.62 | 205.20 | .152 | .151 4181 | 9886 | 8 40 32.22 | 203.90 |
| .103 | .102 8184 | 9947 | 5 53 27.81 | 205.18 | .153 | .152 4065 | 9884 | 8 43 56.11 | 203.87 |
| .104 | .103 8130 | 9946 | 5 56 52.97 | 205.15 | .154 | .153 3949 | 9883 | 8 47 19.96 | 203.84 |
| 0.105 | 0.104 8076 | 9945 | 6 00 18.12 | 205.13 | 0.155 | 0.154 3831 | 9881 | 8 50 43.79 | 203.81 |
| .106 | .105 8021 | 9944 | 6 03 43.24 | 205.11 | .156 | .155 3711 | 9880 | 8 54 07.59 | 203.78 |
| .107 | .106 7964 | 9943 | 6 07 08.34 | 205.09 | .157 | .156 3590 | 9878 | 8 57 31.35 | 203.75 |
| .108 | .107 7907 | 9942 | 6 10 33.42 | 205.07 | .158 | .157 3467 | 9876 | 9 00 55.08 | 203.72 |
| .109 | .108 7848 | 9941 | 6 13 58.48 | 205.05 | .159 | .158 3343 | 9875 | 9 04 18.78 | 203.68 |
| 0.110 | 0.109 7788 | 9940 | 6 17 23.51 | 205.02 | 0.160 | 0.159 3217 | 9873 | 9 07 42.45 | 203.65 |
| .111 | .110 7728 | 9939 | 6 20 48.52 | 205.00 | .161 | .160 3089 | 9872 | 9 11 06.09 | 203.62 |
| .112 | .111 7666 | 9938 | 6 24 13.51 | 204.98 | .162 | .161 2960 | 9870 | 9 14 29.60 | 203.59 |
| .113 | .112 7603 | 9936 | 6 27 38.48 | 204.95 | .163 | .162 2830 | 9869 | 9 17 53.26 | 203.55 |
| .114 | .113 7539 | 9935 | 6 31 03.42 | 204.93 | .164 | .163 2697 | 9867 | 9 21 16.80 | 203.52 |
| 0.115 | 0.114 7474 | 9934 | 6 34 28.34 | 204.91 | 0.165 | 0.164 2564 | 9865 | 9 24 40.31 | 203.49 |
| .116 | .115 7407 | 9933 | 6 37 53.24 | 204.88 | .166 | .165 2428 | 9864 | 9 28 03.78 | 203.46 |
| .117 | .116 7340 | 9932 | 6 41 18.11 | 204.86 | .167 | .166 2291 | 9862 | 9 31 27.22 | 203.42 |
| .118 | .117 7271 | 9931 | 6 44 42.96 | 204.84 | .168 | .167 2153 | 9861 | 9 34 50.62 | 203.39 |
| .119 | .118 7201 | 9930 | 6 48 07.78 | 204.81 | .169 | .168 2012 | 9859 | 9 38 13.99 | 203.35 |
| 0.120 | 0.119 7130 | 9928 | 6 51 32.59 | 204.79 | 0.170 | 0.169 1870 | 9857 | 9 41 37.33 | 203.32 |
| .121 | .120 7058 | 9927 | 6 54 57.36 | 204.76 | .171 | .170 1727 | 9856 | 9 45 00.63 | 203.29 |
| .122 | .121 6985 | 9926 | 6 58 22.11 | 204.74 | .172 | .171 1581 | 9854 | 9 48 23.90 | 203.25 |
| .123 | .122 6910 | 9925 | 7 01 46.84 | 204.71 | .173 | .172 1434 | 9852 | 9 51 47.14 | 203.22 |
| .124 | .123 6834 | 9924 | 7 05 11.54 | 204.69 | .174 | .173 1286 | 9851 | 9 55 10.33 | 203.18 |
| 0.125 | 0.124 6757 | 9922 | 7 08 36.22 | 204.66 | 0.175 | 0.174 1136 | 9849 | 9 58 33.50 | 203.15 |
| .126 | .125 6679 | 9921 | 7 12 00.87 | 204.64 | .176 | .175 9983 | 9847 | 10 01 56.63 | 203.11 |
| .127 | .126 6600 | 9920 | 7 15 25.49 | 204.61 | .177 | .176 8630 | 9845 | 10 05 19.72 | 203.08 |
| .128 | .127 6519 | 9919 | 7 18 50.09 | 204.59 | .178 | .177 6674 | 9844 | 10 08 42.78 | 203.04 |
| .129 | .128 6437 | 9917 | 7 22 14.67 | 204.56 | .179 | .178 5517 | 9842 | 10 12 05.80 | 203.00 |
| 0.130 | 0.129 6354 | 9916 | 7 25 39.22 | 204.53 | 0.180 | 0.179 9358 | 9840 | 10 15 28.78 | 202.97 |
| .131 | .130 6269 | 9915 | 7 29 03.74 | 204.51 | .181 | .180 9197 | 9838 | 10 18 51.73 | 202.93 |
| .132 | .131 6183 | 9913 | 7 32 28.23 | 204.48 | .182 | .181 9035 | 9837 | 10 22 14.65 | 202.90 |
| .133 | .132 6096 | 9912 | 7 35 52.70 | 204.45 | .183 | .181 9871 | 9835 | 10 25 37.52 | 202.86 |
| .134 | .133 6008 | 9911 | 7 39 17.14 | 204.43 | .184 | .182 9705 | 9833 | 10 29 00.36 | 202.82 |
| 0.135 | 0.134 5918 | 9910 | 7 42 41.55 | 204.40 | 0.185 | 0.183 9537 | 9831 | 10 32 23.17 | 202.78 |
| .136 | .135 5827 | 9908 | 7 46 05.94 | 204.37 | .186 | .184 9367 | 9829 | 10 35 45.93 | 202.75 |
| .137 | .136 5734 | 9907 | 7 49 30.29 | 204.34 | .187 | .185 9196 | 9828 | 10 39 08.66 | 202.71 |
| .138 | .137 5641 | 9906 | 7 52 54.62 | 204.32 | .188 | .186 9022 | 9826 | 10 42 31.35 | 202.67 |
| .139 | .138 5545 | 9904 | 7 56 18.93 | 204.29 | .189 | .187 8847 | 9824 | 10 45 54.01 | 202.63 |
| 0.140 | 0.139 5449 | 9903 | 7 59 43.20 | 204.26 | 0.190 | 0.188 8670 | 9822 | 10 49 16.62 | 202.60 |
| .141 | .140 5351 | 9901 | 8 03 07.45 | 204.23 | .191 | .189 8492 | 9820 | 10 52 39.20 | 202.56 |
| .142 | .141 5252 | 9900 | 8 06 31.66 | 204.20 | .192 | .190 8311 | 9818 | 10 56 01.74 | 202.52 |
| .143 | .142 5151 | 9899 | 8 09 55.85 | 204.17 | .193 | .191 8129 | 9817 | 10 59 24.24 | 202.48 |
| .144 | .143 5049 | 9897 | 8 13 20.01 | 204.14 | .194 | .192 7944 | 9815 | 11 02 46.71 | 202.44 |
| 0.145 | 0.144 4946 | 9896 | 8 16 44.14 | 204.12 | 0.195 | 0.193 7758 | 9813 | 11 06 09.13 | 202.40 |
| .146 | .145 4841 | 9894 | 8 20 08.24 | 204.09 | .196 | .194 7570 | 9811 | 11 09 31.51 | 202.37 |
| .147 | .146 4734 | 9893 | 8 23 32.31 | 204.06 | .197 | .195 7380 | 9809 | 11 12 53.86 | 202.33 |
| .148 | .147 4626 | 9891 | 8 26 56.35 | 204.03 | .198 | .196 7188 | 9807 | 11 16 16.17 | 202.29 |
| .149 | .148 4517 | 9890 | 8 30 20.36 | 204.00 | .199 | .197 6994 | 9805 | 11 19 38.43 | 202.25 |
| 0.150 | 0.149 4406 | 9889 | 8 33 44.35 | 203.97 | 0.200 | 0.198 6798 | 9803 | 11 23 00.66 | 202.21 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.200 | 0.198 6798 | 9803 | II 23 00.66 | 202.21 | 0.250 | 0.247 4358 | 9695 | I4 10 37.30 | 199.98 |
| .201 | .199 6601 | 9801 | II 26 22.85 | 202.17 | .251 | .248 4052 | 9693 | I4 13 57.26 | 199.93 |
| .202 | .200 6401 | 9799 | II 29 44.99 | 202.13 | .252 | .249 3744 | 9691 | I4 17 17.16 | 199.88 |
| .203 | .201 6200 | 9797 | II 33 07.10 | 202.09 | .253 | .250 3434 | 9688 | I4 20 37.02 | 199.84 |
| .204 | .202 5996 | 9795 | II 36 29.17 | 202.05 | .254 | .251 3121 | 9686 | I4 23 56.83 | 199.79 |
| 0.205 | 0.203 5790 | 9794 | II 39 51.19 | 202.01 | 0.255 | 0.252 2805 | 9683 | I4 27 16.59 | 199.74 |
| .206 | .204 5583 | 9792 | II 43 13.18 | 201.96 | .256 | .253 2488 | 9681 | I4 30 36.31 | 199.69 |
| .207 | .205 5374 | 9790 | II 46 35.12 | 201.92 | .257 | .254 2167 | 9679 | I4 33 55.97 | 199.64 |
| .208 | .206 5162 | 9788 | II 49 57.02 | 201.88 | .258 | .255 1845 | 9676 | I4 37 15.58 | 199.59 |
| .209 | .207 4949 | 9786 | II 53 18.89 | 201.84 | .259 | .256 1520 | 9674 | I4 40 35.14 | 199.53 |
| 0.210 | 0.208 4733 | 9783 | II 56 40.71 | 201.80 | 0.260 | 0.257 1192 | 9671 | I4 43 54.65 | 199.48 |
| .211 | .209 4515 | 9781 | II 00 02.48 | 201.76 | .261 | .258 0862 | 9669 | I4 47 14.10 | 199.43 |
| .212 | .210 4296 | 9779 | II 03 24.22 | 201.71 | .262 | .259 0530 | 9666 | I4 50 33.51 | 199.38 |
| .213 | .211 4074 | 9777 | II 06 45.91 | 201.67 | .263 | .260 0195 | 9664 | I4 53 52.87 | 199.33 |
| .214 | .212 3851 | 9775 | II 10 07.56 | 201.63 | .264 | .260 9857 | 9661 | I4 57 12.18 | 199.29 |
| 0.215 | 0.213 3625 | 9773 | II 13 29.17 | 201.59 | 0.265 | 0.261 9518 | 9659 | I5 00 31.43 | 199.24 |
| .216 | .214 3397 | 9771 | II 16 50.74 | 201.54 | .266 | .262 9175 | 9656 | I5 03 50.63 | 199.19 |
| .217 | .215 3167 | 9769 | II 20 12.26 | 201.50 | .267 | .263 8830 | 9654 | I5 07 09.78 | 199.13 |
| .218 | .216 2935 | 9767 | II 23 33.74 | 201.46 | .268 | .264 8483 | 9651 | I5 10 28.88 | 199.08 |
| .219 | .217 2701 | 9765 | II 26 55.18 | 201.42 | .269 | .265 8133 | 9649 | I5 13 47.93 | 199.03 |
| 0.220 | 0.218 2465 | 9763 | II 30 16.57 | 201.37 | 0.270 | 0.266 7781 | 9646 | I5 17 06.92 | 198.98 |
| .221 | .219 2227 | 9761 | II 33 37.92 | 201.33 | .271 | .267 7425 | 9644 | I5 20 25.86 | 198.93 |
| .222 | .220 1986 | 9759 | II 36 59.23 | 201.28 | .272 | .268 7068 | 9641 | I5 23 44.75 | 198.87 |
| .223 | .221 1744 | 9756 | II 40 20.49 | 201.24 | .273 | .269 6708 | 9639 | I5 27 03.59 | 198.82 |
| .224 | .222 1499 | 9754 | II 43 41.71 | 201.20 | .274 | .270 6345 | 9636 | I5 30 22.37 | 198.77 |
| 0.225 | 0.223 1252 | 9752 | II 47 02.88 | 201.15 | 0.275 | 0.271 5980 | 9633 | I5 33 41.10 | 198.71 |
| .226 | .224 1003 | 9750 | II 50 24.01 | 201.11 | .276 | .272 5612 | 9631 | I5 36 59.78 | 198.66 |
| .227 | .225 0752 | 9748 | II 53 45.10 | 201.06 | .277 | .273 5242 | 9628 | I5 40 18.41 | 198.61 |
| .228 | .226 0499 | 9746 | II 57 06.14 | 201.02 | .278 | .274 4868 | 9626 | I5 43 36.98 | 198.55 |
| .229 | .227 0243 | 9743 | II 00 27.13 | 200.97 | .279 | .275 4493 | 9623 | I5 46 55.49 | 198.50 |
| 0.230 | 0.227 9986 | 9741 | II 03 48.08 | 200.93 | 0.280 | 0.276 4114 | 9620 | I5 50 13.95 | 198.45 |
| .231 | .228 9726 | 9739 | II 07 08.99 | 200.88 | .281 | .277 3734 | 9618 | I5 53 32.36 | 198.38 |
| .232 | .229 9464 | 9737 | II 10 29.85 | 200.84 | .282 | .278 3350 | 9615 | I5 56 50.72 | 198.33 |
| .233 | .230 9199 | 9735 | II 13 50.66 | 200.79 | .283 | .279 2964 | 9612 | I6 00 09.02 | 198.27 |
| .234 | .231 8933 | 9732 | II 17 11.42 | 200.74 | .284 | .280 2575 | 9610 | I6 03 27.26 | 198.22 |
| 0.235 | 0.232 8664 | 9730 | II 20 32.15 | 200.70 | 0.285 | 0.281 2184 | 9607 | I6 06 45.45 | 198.16 |
| .236 | .233 8393 | 9728 | II 23 52.82 | 200.65 | .286 | .282 1789 | 9604 | I6 10 03.58 | 198.11 |
| .237 | .234 8120 | 9726 | II 27 13.45 | 200.60 | .287 | .283 1393 | 9602 | I6 13 21.66 | 198.05 |
| .238 | .235 7844 | 9723 | II 30 34.03 | 200.56 | .288 | .284 0993 | 9599 | I6 16 39.69 | 198.00 |
| .239 | .236 7566 | 9721 | II 33 54.56 | 200.51 | .289 | .285 0591 | 9596 | I6 19 57.66 | 197.94 |
| 0.240 | 0.237 7286 | 9719 | II 37 15.05 | 200.46 | 0.290 | 0.286 0186 | 9594 | I6 23 15.57 | 197.89 |
| .241 | .238 7004 | 9716 | II 40 35.49 | 200.42 | .291 | .286 9778 | 9591 | I6 26 33.43 | 197.83 |
| .242 | .239 6719 | 9714 | II 43 55.88 | 200.37 | .292 | .287 9368 | 9588 | I6 29 51.23 | 197.77 |
| .243 | .240 6432 | 9712 | II 47 16.23 | 200.32 | .293 | .288 8955 | 9586 | I6 33 08.97 | 197.72 |
| .244 | .241 6143 | 9710 | II 50 36.53 | 200.27 | .294 | .289 8539 | 9583 | I6 36 26.66 | 197.66 |
| 0.245 | 0.242 5851 | 9707 | II 53 56.77 | 200.23 | 0.295 | 0.290 8121 | 9580 | I6 39 44.30 | 197.60 |
| .246 | .243 5557 | 9705 | II 57 16.98 | 200.18 | .296 | .291 7699 | 9577 | I6 43 01.87 | 197.55 |
| .247 | .244 5261 | 9703 | II 00 37.13 | 200.13 | .297 | .292 7275 | 9575 | I6 46 19.39 | 197.49 |
| .248 | .245 4962 | 9700 | II 03 57.23 | 200.08 | .298 | .293 6849 | 9572 | I6 49 36.85 | 197.43 |
| .249 | .246 4661 | 9698 | II 07 17.29 | 200.03 | .299 | .294 6419 | 9569 | I6 52 54.26 | 197.38 |
| 0.250 | 0.247 4358 | 9695 | I4 10 37.30 | 199.98 | 0.300 | 0.295 5987 | 9566 | I6 56 11.60 | 197.32 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.300 | 0.295 5987 | 9566 | 16° 56' 11.60" | 197.32 | 0.350 | 0.343 0655 | 9417 | 19° 39' 22.34" | 194.25 |
| .301 | .296 5552 | 9563 | 16 59 28.89 | 197.26 | .351 | .344 0071 | 9414 | 19 42 36.55 | 194.18 |
| .302 | .297 5114 | 9561 | 17 02 46.13 | 197.20 | .352 | .344 9483 | 9411 | 19 45 50.70 | 194.11 |
| .303 | .298 4673 | 9558 | 17 05 03.30 | 197.15 | .353 | .345 8893 | 9408 | 19 49 04.78 | 194.05 |
| .304 | .299 4229 | 9555 | 17 09 20.42 | 197.09 | .354 | .346 8299 | 9405 | 19 52 18.80 | 193.98 |
| 0.305 | 0.300 3783 | 9552 | 17 12 37.48 | 197.03 | 0.355 | 0.347 7702 | 9401 | 19 55 32.75 | 193.92 |
| .306 | .301 3334 | 9549 | 17 15 54.48 | 196.97 | .356 | .348 7101 | 9398 | 19 58 46.63 | 193.85 |
| .307 | .302 2882 | 9547 | 17 19 11.42 | 196.91 | .357 | .349 6498 | 9395 | 20 02 00.45 | 193.78 |
| .308 | .303 2427 | 9544 | 17 22 28.30 | 196.85 | .358 | .350 5891 | 9392 | 20 05 14.20 | 193.72 |
| .309 | .304 1969 | 9541 | 17 25 45.12 | 196.79 | .359 | .351 5281 | 9388 | 20 08 27.88 | 193.65 |
| 0.310 | 0.305 1509 | 9538 | 17 29 01.89 | 196.74 | 0.360 | 0.352 4668 | 9385 | 20 11 41.50 | 193.58 |
| .311 | .306 1045 | 9535 | 17 32 18.60 | 196.68 | .361 | .353 4052 | 9382 | 20 14 55.05 | 193.52 |
| .312 | .307 0579 | 9532 | 17 35 35.24 | 196.62 | .362 | .354 3432 | 9378 | 20 18 08.54 | 193.45 |
| .313 | .308 0110 | 9529 | 17 38 51.83 | 196.56 | .363 | .355 2809 | 9375 | 20 21 21.95 | 193.38 |
| .314 | .308 9638 | 9526 | 17 42 08.36 | 196.50 | .364 | .356 2183 | 9372 | 20 24 35.30 | 193.32 |
| 0.315 | 0.309 9163 | 9524 | 17 45 24.83 | 196.44 | 0.365 | 0.357 1554 | 9369 | 20 27 48.59 | 193.25 |
| .316 | .310 8685 | 9521 | 17 48 41.23 | 196.38 | .366 | .358 0921 | 9366 | 20 31 01.80 | 193.18 |
| .317 | .311 8204 | 9518 | 17 51 57.58 | 196.32 | .367 | .359 0285 | 9362 | 20 34 14.95 | 193.11 |
| .318 | .312 7721 | 9515 | 17 55 13.87 | 196.26 | .368 | .359 9646 | 9359 | 20 37 28.03 | 193.05 |
| .319 | .313 7234 | 9512 | 17 58 30.10 | 196.20 | .369 | .360 9003 | 9356 | 20 40 41.04 | 192.98 |
| 0.320 | 0.314 6744 | 9509 | 18 01 46.26 | 196.14 | 0.370 | 0.361 8358 | 9352 | 20 43 53.98 | 192.91 |
| .321 | .315 6252 | 9506 | 18 05 02.37 | 196.08 | .371 | .362 7708 | 9349 | 20 47 06.86 | 192.84 |
| .322 | .316 5757 | 9503 | 18 08 18.42 | 196.01 | .372 | .363 7056 | 9346 | 20 50 19.66 | 192.77 |
| .323 | .317 5258 | 9500 | 18 11 34.40 | 195.95 | .373 | .364 6400 | 9343 | 20 53 32.40 | 192.70 |
| .324 | .318 4757 | 9497 | 18 14 50.32 | 195.89 | .374 | .365 5741 | 9339 | 20 56 45.07 | 192.63 |
| 0.325 | 0.319 4252 | 9494 | 18 18 06.19 | 195.83 | 0.375 | 0.366 5078 | 9336 | 20 59 57.67 | 192.57 |
| .326 | .320 3745 | 9491 | 18 21 21.99 | 195.77 | .376 | .367 4413 | 9332 | 21 03 10.20 | 192.50 |
| .327 | .321 3235 | 9488 | 18 24 37.72 | 195.71 | .377 | .368 3743 | 9329 | 21 06 22.66 | 192.43 |
| .328 | .322 2721 | 9485 | 18 27 53.40 | 195.65 | .378 | .369 3071 | 9326 | 21 09 35.05 | 192.36 |
| .329 | .323 2205 | 9482 | 18 31 09.02 | 195.58 | .379 | .370 2395 | 9322 | 21 12 47.38 | 192.29 |
| 0.330 | 0.324 1686 | 9479 | 18 34 24.57 | 195.52 | 0.380 | 0.371 1716 | 9319 | 21 15 59.63 | 192.22 |
| .331 | .325 1163 | 9476 | 18 37 40.06 | 195.46 | .381 | .372 1033 | 9316 | 21 19 11.82 | 192.15 |
| .332 | .326 0638 | 9473 | 18 40 55.49 | 195.40 | .382 | .373 0347 | 9312 | 21 22 23.93 | 192.08 |
| .333 | .327 0110 | 9470 | 18 44 10.85 | 195.33 | .383 | .373 9658 | 9309 | 21 25 35.97 | 192.01 |
| .334 | .327 9578 | 9467 | 18 47 26.16 | 195.27 | .384 | .374 8965 | 9305 | 21 28 47.95 | 191.94 |
| 0.335 | 0.328 9044 | 9464 | 18 50 41.40 | 195.21 | 0.385 | 0.375 8268 | 9302 | 21 31 59.85 | 191.87 |
| .336 | .329 8506 | 9461 | 18 53 56.57 | 195.15 | .386 | .376 7569 | 9299 | 21 35 11.68 | 191.80 |
| .337 | .330 7965 | 9458 | 18 57 11.69 | 195.08 | .387 | .377 6866 | 9295 | 21 38 23.45 | 191.73 |
| .338 | .331 7422 | 9455 | 19 00 26.74 | 195.02 | .388 | .378 6159 | 9292 | 21 41 35.14 | 191.66 |
| .339 | .332 6875 | 9452 | 19 03 41.72 | 194.95 | .389 | .379 5449 | 9288 | 21 44 46.76 | 191.59 |
| 0.340 | 0.333 6325 | 9449 | 19 06 56.65 | 194.89 | 0.390 | 0.380 4736 | 9285 | 21 47 58.31 | 191.51 |
| .341 | .334 5772 | 9445 | 19 10 11.50 | 194.83 | .391 | .381 4019 | 9281 | 21 51 09.79 | 191.44 |
| .342 | .335 5216 | 9442 | 19 13 26.30 | 194.76 | .392 | .382 3299 | 9278 | 21 54 21.20 | 191.37 |
| .343 | .336 4657 | 9439 | 19 16 41.03 | 194.70 | .393 | .383 2575 | 9275 | 21 57 32.53 | 191.30 |
| .344 | .337 4095 | 9436 | 19 19 55.70 | 194.63 | .394 | .384 1848 | 9271 | 22 00 43.80 | 191.23 |
| 0.345 | 0.338 3529 | 9433 | 19 23 10.30 | 194.57 | 0.395 | 0.385 1117 | 9268 | 22 03 54.99 | 191.16 |
| .346 | .339 2961 | 9430 | 19 26 24.84 | 194.51 | .396 | .386 0383 | 9264 | 22 07 06.11 | 191.09 |
| .347 | .340 2389 | 9427 | 19 29 39.31 | 194.44 | .397 | .386 9645 | 9261 | 22 10 17.16 | 191.01 |
| .348 | .341 1814 | 9424 | 19 32 53.72 | 194.38 | .398 | .387 8904 | 9257 | 22 13 28.14 | 190.94 |
| .349 | .342 1236 | 9420 | 19 36 08.06 | 194.31 | .399 | .388 8159 | 9254 | 22 16 39.04 | 190.87 |
| 0.350 | 0.343 0655 | 9417 | 19 39 22.34 | 194.25 | 0.400 | 0.389 7411 | 9250 | 22 19 49.88 | 190.80 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.400 | 0.389 7411 | 9250 | 22 19 49.88 | 190.80 | 0.450 | 0.435 5388 | 9066 | 24 57 16.34 | 187.01 |
| .401 | .390 6660 | 9247 | 22 23 00.64 | 190.72 | .451 | .436 4453 | 9063 | 25 00 23.31 | 186.93 |
| .402 | .391 5904 | 9243 | 22 26 11.32 | 190.65 | .452 | .437 3514 | 9059 | 25 03 30.20 | 186.85 |
| .403 | .392 5146 | 9240 | 22 29 21.94 | 190.58 | .453 | .438 2571 | 9055 | 25 06 37.01 | 186.77 |
| .404 | .393 4383 | 9236 | 22 32 32.48 | 190.51 | .454 | .439 1624 | 9051 | 25 09 43.74 | 186.69 |
| 0.405 | 0.394 3618 | 9232 | 22 35 42.95 | 190.43 | 0.455 | 0.440 0673 | 9047 | 25 12 50.39 | 186.61 |
| .406 | .395 2848 | 9229 | 22 38 53.35 | 190.36 | .456 | .440 9718 | 9043 | 25 15 56.96 | 186.53 |
| .407 | .396 2075 | 9225 | 22 42 03.67 | 190.29 | .457 | .441 8759 | 9040 | 25 19 03.46 | 186.45 |
| .408 | .397 1299 | 9222 | 22 45 13.92 | 190.21 | .458 | .442 7797 | 9036 | 25 22 09.87 | 186.37 |
| .409 | .398 0519 | 9218 | 22 48 24.09 | 190.14 | .459 | .443 6831 | 9032 | 25 25 16.20 | 186.29 |
| 0.410 | 0.398 9735 | 9215 | 22 51 34.19 | 190.06 | 0.460 | 0.444 5861 | 9028 | 25 28 22.46 | 186.21 |
| .411 | .399 8948 | 9211 | 22 54 44.22 | 189.99 | .461 | .445 4886 | 9024 | 25 31 28.63 | 186.13 |
| .412 | .400 8157 | 9207 | 22 57 54.18 | 189.92 | .462 | .446 3909 | 9020 | 25 34 34.72 | 186.05 |
| .413 | .401 7363 | 9204 | 23 01 04.06 | 189.84 | .463 | .447 2927 | 9016 | 25 37 40.74 | 185.97 |
| .414 | .402 6565 | 9200 | 23 04 13.86 | 189.77 | .464 | .448 1941 | 9012 | 25 40 46.67 | 185.89 |
| 0.415 | 0.403 5763 | 9197 | 23 07 23.59 | 189.69 | 0.465 | 0.449 0951 | 9008 | 25 43 52.52 | 185.81 |
| .416 | .404 4958 | 9193 | 23 10 33.25 | 189.62 | .466 | .449 9958 | 9004 | 25 46 58.29 | 185.73 |
| .417 | .405 4149 | 9189 | 23 13 42.83 | 189.54 | .467 | .450 8960 | 9001 | 25 50 03.98 | 185.65 |
| .418 | .406 3337 | 9186 | 23 16 52.34 | 189.47 | .468 | .451 7959 | 8997 | 25 53 09.59 | 185.57 |
| .419 | .407 2521 | 9182 | 23 20 01.77 | 189.39 | .469 | .452 6954 | 8993 | 25 56 15.12 | 185.49 |
| 0.420 | 0.408 1701 | 9178 | 23 23 11.13 | 189.32 | 0.470 | 0.453 5944 | 8989 | 25 59 20.57 | 185.41 |
| .421 | .409 0878 | 9175 | 23 26 20.41 | 189.24 | .471 | .454 4931 | 8985 | 26 02 25.93 | 185.33 |
| .422 | .410 0051 | 9171 | 23 29 29.62 | 189.17 | .472 | .455 3914 | 8981 | 26 05 31.22 | 185.24 |
| .423 | .410 9220 | 9168 | 23 32 38.75 | 189.09 | .473 | .456 2893 | 8977 | 26 08 36.42 | 185.16 |
| .424 | .411 8386 | 9164 | 23 35 47.81 | 189.02 | .474 | .457 1868 | 8973 | 26 11 41.54 | 185.08 |
| 0.425 | 0.412 7548 | 9160 | 23 38 56.79 | 188.94 | 0.475 | 0.458 0839 | 8969 | 26 14 46.58 | 185.00 |
| .426 | .413 6706 | 9157 | 23 42 05.69 | 188.87 | .476 | .458 9806 | 8965 | 26 17 51.54 | 184.92 |
| .427 | .414 5861 | 9153 | 23 45 14.52 | 188.79 | .477 | .459 8769 | 8961 | 26 20 56.42 | 184.84 |
| .428 | .415 5012 | 9149 | 23 48 23.27 | 188.71 | .478 | .460 7728 | 8957 | 26 24 01.21 | 184.75 |
| .429 | .416 4159 | 9145 | 23 51 31.95 | 188.64 | .479 | .461 6683 | 8953 | 26 27 05.93 | 184.67 |
| 0.430 | 0.417 3303 | 9142 | 23 54 40.55 | 188.56 | 0.480 | 0.462 5634 | 8949 | 26 30 10.56 | 184.59 |
| .431 | .418 2443 | 9138 | 23 57 49.07 | 188.49 | .481 | .463 4581 | 8945 | 26 33 15.10 | 184.51 |
| .432 | .419 1579 | 9134 | 24 00 57.52 | 188.41 | .482 | .464 3524 | 8941 | 26 36 19.57 | 184.42 |
| .433 | .420 0711 | 9131 | 24 04 05.89 | 188.33 | .483 | .465 2464 | 8937 | 26 39 23.95 | 184.34 |
| .434 | .420 9840 | 9127 | 24 07 14.18 | 188.26 | .484 | .466 1399 | 8933 | 26 42 28.25 | 184.26 |
| 0.435 | 0.421 8965 | 9123 | 24 10 22.40 | 188.18 | 0.485 | 0.467 0330 | 8929 | 26 45 32.47 | 184.18 |
| .436 | .422 8086 | 9119 | 24 13 30.54 | 188.10 | .486 | .467 9257 | 8925 | 26 48 36.60 | 184.09 |
| .437 | .423 7204 | 9116 | 24 16 38.60 | 188.02 | .487 | .468 8180 | 8921 | 26 51 40.65 | 184.01 |
| .438 | .424 6318 | 9112 | 24 19 46.59 | 187.95 | .488 | .469 7099 | 8917 | 26 54 44.62 | 183.93 |
| .439 | .425 5428 | 9108 | 24 22 54.50 | 187.87 | .489 | .470 6014 | 8913 | 26 57 48.50 | 183.84 |
| 0.440 | 0.426 4534 | 9104 | 24 26 02.33 | 187.79 | 0.490 | 0.471 4925 | 8909 | 27 00 52.31 | 183.76 |
| .441 | .427 3636 | 9101 | 24 29 10.08 | 187.71 | .491 | .472 3832 | 8905 | 27 03 56.02 | 183.68 |
| .442 | .428 2735 | 9097 | 24 32 17.75 | 187.64 | .492 | .473 2735 | 8901 | 27 06 59.66 | 183.59 |
| .443 | .429 1830 | 9093 | 24 35 25.35 | 187.56 | .493 | .474 1633 | 8897 | 27 10 03.21 | 183.51 |
| .444 | .430 0921 | 9089 | 24 38 32.87 | 187.48 | .494 | .475 0528 | 8893 | 27 13 06.68 | 183.42 |
| 0.445 | 0.431 0009 | 9085 | 24 41 40.31 | 187.40 | 0.495 | 0.475 9419 | 8889 | 27 16 10.06 | 183.34 |
| .446 | .431 9092 | 9082 | 24 44 47.67 | 187.32 | .496 | .476 8305 | 8885 | 27 19 13.36 | 183.26 |
| .447 | .432 8172 | 9078 | 24 47 54.96 | 187.24 | .497 | .477 7188 | 8880 | 27 22 16.57 | 183.17 |
| .448 | .433 7248 | 9074 | 24 51 02.16 | 187.17 | .498 | .478 6066 | 8876 | 27 25 19.70 | 183.09 |
| .449 | .434 6320 | 9070 | 24 54 09.29 | 187.09 | .499 | .479 4941 | 8872 | 27 28 22.75 | 183.00 |
| 0.450 | 0.435 5388 | 9066 | 24 57 16.34 | 187.01 | 0.500 | 0.480 3811 | 8868 | 27 31 25.71 | 182.92 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.500 | 0.480 3811 | 8868 | 27 31 25.71 | 182.92 | 0.550 | 0.524 1996 | 8657 | 30 02 03.92 | 178.57 |
| .501 | .481 2677 | 8864 | 27 34 28.59 | 182.83 | .551 | .525 0651 | 8653 | 30 05 02.45 | 178.48 |
| .502 | .482 1539 | 8860 | 27 37 31.38 | 182.75 | .552 | .525 9302 | 8649 | 30 08 00.88 | 178.39 |
| .503 | .483 0397 | 8856 | 27 40 34.09 | 182.67 | .553 | .526 7948 | 8644 | 30 10 59.23 | 178.30 |
| .504 | .483 9251 | 8852 | 27 43 36.71 | 182.58 | .554 | .527 6590 | 8640 | 30 13 57.48 | 178.21 |
| 0.505 | 0.484 8100 | 8848 | 27 46 39.25 | 182.50 | 0.555 | 0.528 5228 | 8636 | 30 16 55.65 | 178.12 |
| .506 | .485 6946 | 8844 | 27 49 41.72 | 182.41 | .556 | .529 3861 | 8631 | 30 19 53.72 | 178.03 |
| .507 | .486 5787 | 8839 | 27 52 44.07 | 182.33 | .557 | .530 2490 | 8627 | 30 22 51.71 | 177.94 |
| .508 | .487 4625 | 8835 | 27 55 46.35 | 182.24 | .558 | .531 1115 | 8622 | 30 25 49.60 | 177.85 |
| .509 | .488 3458 | 8831 | 27 58 48.55 | 182.15 | .559 | .531 9735 | 8618 | 30 28 47.41 | 177.76 |
| 0.510 | 0.489 2287 | 8827 | 28 01 50.66 | 182.07 | 0.560 | 0.532 8351 | 8614 | 30 31 45.12 | 177.67 |
| .511 | .490 1112 | 8823 | 28 04 52.69 | 181.98 | .561 | .533 6962 | 8609 | 30 34 42.75 | 177.58 |
| .512 | .490 9933 | 8819 | 28 07 54.63 | 181.90 | .562 | .534 5569 | 8605 | 30 37 40.28 | 177.49 |
| .513 | .491 8749 | 8814 | 28 10 56.48 | 181.81 | .563 | .535 4172 | 8601 | 30 40 37.73 | 177.40 |
| .514 | .492 7562 | 8810 | 28 13 58.25 | 181.73 | .564 | .536 2771 | 8596 | 30 43 35.08 | 177.31 |
| 0.515 | 0.493 6370 | 8806 | 28 16 59.94 | 181.64 | 0.565 | 0.537 1365 | 8592 | 30 46 32.35 | 177.22 |
| .516 | .494 5174 | 8802 | 28 20 01.53 | 181.55 | .566 | .537 9954 | 8587 | 30 49 29.52 | 177.13 |
| .517 | .495 3974 | 8798 | 28 23 03.04 | 181.47 | .567 | .538 8539 | 8583 | 30 52 26.60 | 177.04 |
| .518 | .496 2769 | 8794 | 28 26 04.47 | 181.38 | .568 | .539 7120 | 8579 | 30 55 23.59 | 176.95 |
| .519 | .497 1561 | 8789 | 28 29 05.81 | 181.29 | .569 | .540 5696 | 8574 | 30 58 20.49 | 176.85 |
| 0.520 | 0.498 0348 | 8785 | 28 32 07.06 | 181.21 | 0.570 | 0.541 4268 | 8570 | 31 01 17.30 | 176.76 |
| .521 | .498 9131 | 8781 | 28 35 08.22 | 181.12 | .571 | .542 2836 | 8565 | 31 04 14.02 | 176.67 |
| .522 | .499 7910 | 8777 | 28 38 09.30 | 181.04 | .572 | .543 1399 | 8561 | 31 07 10.65 | 176.58 |
| .523 | .500 6685 | 8773 | 28 41 10.29 | 180.95 | .573 | .543 9958 | 8556 | 31 10 07.18 | 176.49 |
| .524 | .501 5456 | 8768 | 28 44 11.20 | 180.86 | .574 | .544 8512 | 8552 | 31 13 03.63 | 176.40 |
| 0.525 | 0.502 4222 | 8764 | 28 47 12.01 | 180.77 | 0.575 | 0.545 7062 | 8548 | 31 15 59.98 | 176.31 |
| .526 | .503 2984 | 8760 | 28 50 12.75 | 180.69 | .576 | .546 5607 | 8543 | 31 18 56.24 | 176.22 |
| .527 | .504 1742 | 8756 | 28 53 13.39 | 180.60 | .577 | .547 4148 | 8539 | 31 21 52.41 | 176.12 |
| .528 | .505 0495 | 8752 | 28 56 13.95 | 180.51 | .578 | .548 2685 | 8534 | 31 24 48.49 | 176.03 |
| .529 | .505 9245 | 8747 | 28 59 14.41 | 180.43 | .579 | .549 1217 | 8530 | 31 27 44.47 | 175.94 |
| 0.530 | 0.506 7990 | 8743 | 29 02 14.80 | 180.34 | 0.580 | 0.549 9744 | 8525 | 31 30 40.37 | 175.85 |
| .531 | .507 6731 | 8739 | 29 05 15.09 | 180.25 | .581 | .550 8267 | 8521 | 31 33 36.17 | 175.76 |
| .532 | .508 5468 | 8735 | 29 08 15.30 | 180.16 | .582 | .551 6786 | 8516 | 31 36 31.88 | 175.66 |
| .533 | .509 4200 | 8730 | 29 11 15.42 | 180.07 | .583 | .552 5300 | 8512 | 31 39 27.50 | 175.57 |
| .534 | .510 2928 | 8726 | 29 14 15.45 | 179.99 | .584 | .553 3810 | 8508 | 31 42 23.03 | 175.48 |
| 0.535 | 0.511 1652 | 8722 | 29 17 15.39 | 179.90 | 0.585 | 0.554 2315 | 8503 | 31 45 18.46 | 175.39 |
| .536 | .512 0372 | 8717 | 29 20 15.24 | 179.81 | .586 | .555 0816 | 8499 | 31 48 13.80 | 175.30 |
| .537 | .512 9087 | 8713 | 29 23 15.01 | 179.72 | .587 | .555 9313 | 8494 | 31 51 09.05 | 175.20 |
| .538 | .513 7798 | 8709 | 29 26 14.69 | 179.63 | .588 | .556 7804 | 8490 | 31 54 04.21 | 175.11 |
| .539 | .514 6505 | 8705 | 29 29 14.28 | 179.55 | .589 | .557 6292 | 8485 | 31 56 59.27 | 175.02 |
| 0.540 | 0.515 5207 | 8700 | 29 32 13.78 | 179.46 | 0.590 | 0.558 4775 | 8481 | 31 59 54.25 | 174.93 |
| .541 | .516 3905 | 8696 | 29 35 13.20 | 179.37 | .591 | .559 3253 | 8476 | 32 02 49.13 | 174.83 |
| .542 | .517 2599 | 8692 | 29 38 12.52 | 179.28 | .592 | .560 1727 | 8472 | 32 05 43.91 | 174.74 |
| .543 | .518 1289 | 8687 | 29 41 11.76 | 179.19 | .593 | .561 0196 | 8467 | 32 08 38.61 | 174.65 |
| .544 | .518 9974 | 8683 | 29 44 10.91 | 179.10 | .594 | .561 8661 | 8463 | 32 11 33.21 | 174.55 |
| 0.545 | 0.519 8655 | 8679 | 29 47 09.96 | 179.01 | 0.595 | 0.562 7122 | 8458 | 32 14 27.71 | 174.46 |
| .546 | .520 7332 | 8675 | 29 50 08.93 | 178.93 | .596 | .563 5577 | 8454 | 32 17 22.13 | 174.37 |
| .547 | .521 6004 | 8670 | 29 53 07.81 | 178.84 | .597 | .564 4029 | 8449 | 32 20 16.45 | 174.27 |
| .548 | .522 4673 | 8666 | 29 56 06.61 | 178.75 | .598 | .565 2476 | 8445 | 32 23 10.68 | 174.18 |
| .549 | .523 3336 | 8662 | 29 59 05.31 | 178.66 | .599 | .566 0918 | 8440 | 32 26 04.81 | 174.09 |
| 0.550 | 0.524 1996 | 8657 | 30 02 03.92 | 178.57 | 0.600 | 0.566 9356 | 8436 | 32 28 58.85 | 173.99 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.600 | 0.566 9356 | 8436 | 32 28 58.85 | 173.99 | 0.650 | 0.608 5398 | 8205 | 34 52 00.34 | 169.24 |
| .601 | .567 7789 | 8431 | 32 31 52.80 | 173.90 | .651 | .609 3600 | 8200 | 34 54 49.52 | 169.14 |
| .602 | .568 6218 | 8426 | 32 34 46.66 | 173.81 | .652 | .610 1798 | 8195 | 34 57 38.62 | 169.04 |
| .603 | .569 4642 | 8422 | 32 37 40.42 | 173.71 | .653 | .610 9991 | 8191 | 35 00 27.61 | 168.95 |
| .604 | .570 3061 | 8417 | 32 40 34.09 | 173.62 | .654 | .611 8179 | 8186 | 35 03 16.51 | 168.85 |
| 0.605 | 0.571 1476 | 8413 | 32 43 27.66 | 173.53 | 0.655 | 0.612 6363 | 8181 | 35 06 05.31 | 168.75 |
| .606 | .571 9887 | 8408 | 32 46 21.14 | 173.43 | .656 | .613 4542 | 8177 | 35 08 54.01 | 168.66 |
| .607 | .572 8293 | 8404 | 32 49 14.52 | 173.34 | .657 | .614 2716 | 8172 | 35 11 42.62 | 168.56 |
| .608 | .573 6694 | 8399 | 32 52 07.82 | 173.24 | .658 | .615 0886 | 8167 | 35 14 31.13 | 168.46 |
| .609 | .574 5091 | 8395 | 32 55 01.01 | 173.15 | .659 | .615 9051 | 8163 | 35 17 19.54 | 168.36 |
| 0.610 | 0.575 3484 | 8390 | 32 57 54.12 | 173.06 | 0.660 | 0.616 7211 | 8158 | 35 20 07.86 | 168.27 |
| .611 | .576 1871 | 8385 | 33 00 47.13 | 172.96 | .661 | .617 5366 | 8153 | 35 22 56.08 | 168.17 |
| .612 | .577 0255 | 8381 | 33 03 40.04 | 172.87 | .662 | .618 3517 | 8148 | 35 25 44.20 | 168.07 |
| .613 | .577 8633 | 8376 | 33 06 32.86 | 172.77 | .663 | .619 1663 | 8144 | 35 28 32.22 | 167.97 |
| .614 | .578 7007 | 8372 | 33 09 25.59 | 172.68 | .664 | .619 9804 | 8139 | 35 31 20.14 | 167.88 |
| 0.615 | 0.579 5377 | 8367 | 33 12 18.22 | 172.59 | 0.665 | 0.620 7941 | 8134 | 35 34 07.97 | 167.78 |
| .616 | .580 3741 | 8363 | 33 15 10.76 | 172.49 | .666 | .621 6073 | 8129 | 35 36 55.70 | 167.68 |
| .617 | .581 2102 | 8358 | 33 18 03.20 | 172.40 | .667 | .622 4200 | 8125 | 35 39 43.34 | 167.58 |
| .618 | .582 0457 | 8353 | 33 20 55.55 | 172.30 | .668 | .623 2322 | 8120 | 35 42 30.87 | 167.49 |
| .619 | .582 8809 | 8349 | 33 23 47.81 | 172.21 | .669 | .624 0440 | 8115 | 35 45 18.31 | 167.39 |
| 0.620 | 0.583 7155 | 8344 | 33 26 39.97 | 172.11 | 0.670 | 0.624 8553 | 8110 | 35 48 05.65 | 167.29 |
| .621 | .584 5497 | 8340 | 33 29 32.03 | 172.02 | .671 | .625 6661 | 8106 | 35 50 52.89 | 167.19 |
| .622 | .585 3834 | 8335 | 33 32 24.00 | 171.92 | .672 | .626 4764 | 8101 | 35 53 40.03 | 167.09 |
| .623 | .586 2167 | 8330 | 33 35 15.87 | 171.83 | .673 | .627 2863 | 8096 | 35 56 27.08 | 167.00 |
| .624 | .587 0495 | 8326 | 33 38 07.65 | 171.73 | .674 | .628 0956 | 8091 | 35 59 14.03 | 166.90 |
| 0.625 | 0.587 8819 | 8321 | 33 40 59.34 | 171.64 | 0.675 | 0.628 9046 | 8087 | 36 02 00.88 | 166.80 |
| .626 | .588 7137 | 8317 | 33 43 50.93 | 171.54 | .676 | .629 7130 | 8082 | 36 04 47.63 | 166.70 |
| .627 | .589 5452 | 8312 | 33 46 42.42 | 171.45 | .677 | .630 5209 | 8077 | 36 07 34.28 | 166.60 |
| .628 | .590 3761 | 8307 | 33 49 33.82 | 171.35 | .678 | .631 3284 | 8072 | 36 10 20.84 | 166.51 |
| .629 | .591 2066 | 8303 | 33 52 25.12 | 171.26 | .679 | .632 1354 | 8068 | 36 13 07.29 | 166.41 |
| 0.630 | 0.592 0367 | 8298 | 33 55 16.33 | 171.16 | 0.680 | 0.632 9420 | 8063 | 36 15 53.65 | 166.31 |
| .631 | .592 8662 | 8293 | 33 58 07.44 | 171.06 | .681 | .633 7480 | 8058 | 36 18 39.91 | 166.21 |
| .632 | .593 6954 | 8289 | 34 00 58.40 | 170.97 | .682 | .634 5536 | 8053 | 36 21 26.07 | 166.11 |
| .633 | .594 5240 | 8284 | 34 03 49.38 | 170.87 | .683 | .635 3587 | 8049 | 36 24 12.14 | 166.01 |
| .634 | .595 3522 | 8280 | 34 06 40.20 | 170.78 | .684 | .636 1633 | 8044 | 36 26 58.10 | 165.92 |
| 0.635 | 0.596 1799 | 8275 | 34 09 30.93 | 170.68 | 0.685 | 0.636 9675 | 8039 | 36 29 43.97 | 165.82 |
| .636 | .597 0072 | 8270 | 34 12 21.56 | 170.59 | .686 | .637 7711 | 8034 | 36 32 29.74 | 165.72 |
| .637 | .597 8339 | 8266 | 34 15 12.10 | 170.49 | .687 | .638 5743 | 8029 | 36 35 15.41 | 165.62 |
| .638 | .598 6603 | 8261 | 34 18 02.54 | 170.39 | .688 | .639 3770 | 8025 | 36 38 00.98 | 165.52 |
| .639 | .599 4861 | 8256 | 34 20 52.89 | 170.30 | .689 | .640 1792 | 8020 | 36 40 46.45 | 165.42 |
| 0.640 | 0.600 3115 | 8252 | 34 23 43.14 | 170.20 | 0.690 | 0.640 9810 | 8015 | 36 43 31.82 | 165.32 |
| .641 | .601 1364 | 8247 | 34 26 33.29 | 170.11 | .691 | .641 7823 | 8010 | 36 46 17.09 | 165.22 |
| .642 | .601 9609 | 8242 | 34 29 23.35 | 170.01 | .692 | .642 5830 | 8006 | 36 49 02.27 | 165.13 |
| .643 | .602 7849 | 8238 | 34 32 13.31 | 169.91 | .693 | .643 3834 | 8001 | 36 51 47.34 | 165.03 |
| .644 | .603 6084 | 8233 | 34 35 03.17 | 169.82 | .694 | .644 1832 | 7996 | 36 54 32.32 | 164.93 |
| 0.645 | 0.604 4315 | 8228 | 34 37 52.94 | 169.72 | 0.695 | 0.644 9825 | 7991 | 36 57 17.20 | 164.83 |
| .646 | .605 2541 | 8224 | 34 40 42.61 | 169.62 | .696 | .645 7814 | 7986 | 37 00 01.98 | 164.73 |
| .647 | .606 0762 | 8219 | 34 43 32.19 | 169.53 | .697 | .646 5798 | 7981 | 37 02 46.66 | 164.63 |
| .648 | .606 8979 | 8214 | 34 46 21.67 | 169.43 | .698 | .647 3777 | 7977 | 37 05 31.24 | 164.53 |
| .649 | .607 7190 | 8210 | 34 49 11.05 | 169.33 | .699 | .648 1751 | 7972 | 37 08 15.72 | 164.43 |
| 0.650 | 0.608 5398 | 8205 | 34 52 00.34 | 169.24 | 0.700 | 0.648 9721 | 7967 | 37 11 00.10 | 164.33 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 0.700 | 0.648 9721 | 7967 | 37 11 00.10 | 164.33 | 0.750 | 0.688 2014 | 7724 | 39 25 51.72 | 159.32 |
| .701 | .649 7685 | 7962 | 37 13 44.38 | 164.23 | .751 | .688 9735 | 7719 | 39 28 30.98 | 159.22 |
| .702 | .650 5645 | 7957 | 37 16 28.57 | 164.13 | .752 | .689 7451 | 7714 | 39 31 10.15 | 159.11 |
| .703 | .651 3600 | 7953 | 37 19 12.65 | 164.03 | .753 | .690 5163 | 7709 | 39 33 49.21 | 159.01 |
| .704 | .652 1550 | 7948 | 37 21 56.63 | 163.93 | .754 | .691 2870 | 7704 | 39 36 28.18 | 158.91 |
| 0.705 | 0.652 9496 | 7943 | 37 24 40.52 | 163.84 | 0.755 | 0.692 0572 | 7699 | 39 39 07.04 | 158.81 |
| .706 | .653 7436 | 7938 | 37 27 24.31 | 163.74 | .756 | .692 8269 | 7694 | 39 41 45.80 | 158.71 |
| .707 | .654 5372 | 7933 | 37 30 07.99 | 163.64 | .757 | .693 5961 | 7690 | 39 44 24.46 | 158.61 |
| .708 | .655 3303 | 7928 | 37 32 51.58 | 163.54 | .758 | .694 3648 | 7685 | 39 47 03.01 | 158.51 |
| .709 | .656 1229 | 7924 | 37 35 35.06 | 163.44 | .759 | .695 1330 | 7680 | 39 49 41.47 | 158.40 |
| 0.710 | 0.656 9150 | 7919 | 37 38 18.45 | 163.34 | 0.760 | 0.695 9007 | 7675 | 39 52 19.82 | 158.30 |
| .711 | .657 7067 | 7914 | 37 41 01.74 | 163.24 | .761 | .696 6679 | 7670 | 39 54 58.07 | 158.20 |
| .712 | .658 4978 | 7909 | 37 43 44.92 | 163.14 | .762 | .697 4347 | 7665 | 39 57 36.23 | 158.10 |
| .713 | .659 2885 | 7904 | 37 46 28.01 | 163.04 | .763 | .698 2009 | 7660 | 40 00 14.28 | 158.00 |
| .714 | .660 0787 | 7899 | 37 49 11.00 | 162.94 | .764 | .698 9667 | 7655 | 40 02 52.22 | 157.90 |
| 0.715 | 0.660 8684 | 7895 | 37 51 53.89 | 162.84 | 0.765 | 0.699 7319 | 7650 | 40 05 30.07 | 157.80 |
| .716 | .661 6576 | 7890 | 37 54 36.68 | 162.74 | .766 | .700 4967 | 7645 | 40 08 07.81 | 157.69 |
| .717 | .662 4463 | 7885 | 37 57 19.36 | 162.64 | .767 | .701 2610 | 7640 | 40 10 45.46 | 157.59 |
| .718 | .663 2346 | 7880 | 38 00 01.95 | 162.54 | .768 | .702 0248 | 7635 | 40 13 23.00 | 157.49 |
| .719 | .664 0223 | 7875 | 38 02 44.44 | 162.44 | .769 | .702 7880 | 7630 | 40 16 00.44 | 157.39 |
| 0.720 | 0.664 8096 | 7870 | 38 05 26.83 | 162.34 | 0.770 | 0.703 5508 | 7625 | 40 18 37.78 | 157.29 |
| .721 | .665 5964 | 7865 | 38 08 09.11 | 162.24 | .771 | .704 3131 | 7620 | 40 21 15.01 | 157.19 |
| .722 | .666 3827 | 7861 | 38 10 51.30 | 162.14 | .772 | .705 0750 | 7616 | 40 23 52.15 | 157.08 |
| .723 | .667 1685 | 7856 | 38 13 33.39 | 162.04 | .773 | .705 8363 | 7611 | 40 26 29.18 | 156.98 |
| .724 | .667 9539 | 7851 | 38 16 15.37 | 161.94 | .774 | .706 5971 | 7606 | 40 29 06.11 | 156.88 |
| 0.725 | 0.668 7387 | 7846 | 38 18 57.26 | 161.84 | 0.775 | 0.707 3574 | 7601 | 40 31 42.94 | 156.78 |
| .726 | .669 5231 | 7841 | 38 21 39.05 | 161.74 | .776 | .708 1173 | 7596 | 40 34 19.67 | 156.68 |
| .727 | .670 3069 | 7836 | 38 24 20.73 | 161.64 | .777 | .708 8766 | 7591 | 40 36 56.29 | 156.57 |
| .728 | .671 0903 | 7831 | 38 27 02.32 | 161.54 | .778 | .709 6354 | 7586 | 40 39 32.82 | 156.47 |
| .729 | .671 8732 | 7827 | 38 29 43.80 | 161.43 | .779 | .710 3938 | 7581 | 40 42 09.24 | 156.37 |
| 0.730 | 0.672 6556 | 7822 | 38 32 25.19 | 161.33 | 0.780 | 0.711 1516 | 7576 | 40 44 45.56 | 156.27 |
| .731 | .673 4376 | 7817 | 38 35 06.47 | 161.23 | .781 | .711 9090 | 7571 | 40 47 21.77 | 156.17 |
| .732 | .674 2190 | 7812 | 38 37 47.65 | 161.13 | .782 | .712 6659 | 7566 | 40 49 57.89 | 156.06 |
| .733 | .675 0000 | 7807 | 38 40 28.74 | 161.03 | .783 | .713 4223 | 7561 | 40 52 33.90 | 155.96 |
| .734 | .675 7804 | 7802 | 38 43 09.72 | 160.93 | .784 | .714 1781 | 7556 | 40 55 09.81 | 155.86 |
| 0.735 | 0.676 5604 | 7797 | 38 45 50.60 | 160.83 | 0.785 | 0.714 9335 | 7551 | 40 57 45.62 | 155.76 |
| .736 | .677 3399 | 7792 | 38 48 31.38 | 160.73 | .786 | .715 6884 | 7546 | 41 00 21.33 | 155.66 |
| .737 | .678 1189 | 7788 | 38 51 12.06 | 160.63 | .787 | .716 4428 | 7541 | 41 02 56.94 | 155.55 |
| .738 | .678 8974 | 7783 | 38 53 52.64 | 160.53 | .788 | .717 1967 | 7537 | 41 05 32.44 | 155.45 |
| .739 | .679 6754 | 7778 | 38 56 33.12 | 160.43 | .789 | .717 9501 | 7532 | 41 08 07.84 | 155.35 |
| 0.740 | 0.680 4530 | 7773 | 38 59 13.50 | 160.33 | 0.790 | 0.718 7030 | 7527 | 41 10 43.14 | 155.25 |
| .741 | .681 2300 | 7768 | 39 01 53.77 | 160.23 | .791 | .719 4554 | 7522 | 41 13 18.33 | 155.15 |
| .742 | .682 0065 | 7763 | 39 04 33.95 | 160.13 | .792 | .720 2073 | 7517 | 41 15 53.43 | 155.04 |
| .743 | .682 7826 | 7758 | 39 07 14.02 | 160.02 | .793 | .720 9588 | 7512 | 41 18 28.42 | 154.94 |
| .744 | .683 5582 | 7753 | 39 09 54.00 | 159.92 | .794 | .721 7097 | 7507 | 41 21 03.31 | 154.84 |
| 0.745 | 0.684 3333 | 7748 | 39 12 33.87 | 159.82 | 0.795 | 0.722 4601 | 7502 | 41 23 38.10 | 154.74 |
| .746 | .685 1079 | 7744 | 39 15 13.64 | 159.72 | .796 | .723 2101 | 7497 | 41 26 12.78 | 154.63 |
| .747 | .685 8820 | 7739 | 39 17 53.31 | 159.62 | .797 | .723 9595 | 7492 | 41 28 47.36 | 154.53 |
| .748 | .686 6556 | 7734 | 39 20 32.88 | 159.52 | .798 | .724 7084 | 7487 | 41 31 21.84 | 154.43 |
| .749 | .687 4287 | 7729 | 39 23 12.35 | 159.42 | .799 | .725 4569 | 7482 | 41 33 56.22 | 154.33 |
| 0.750 | 0.688 2014 | 7724 | 39 25 51.72 | 159.32 | 0.800 | 0.726 2048 | 7477 | 41 36 30.50 | 154.22 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|-----------------------------------|--------------------------------|--|--------------------------------|-------|-----------------------------------|--------------------------------|--|--------------------------------|
| | | | [°] ['] ["] | ["] | | | | [°] ['] ["] | ["] |
| 0.800 | 0.726 2048 | 7477 | 41 36 30.50 | 154.22 | 0.850 | 0.762 9677 | 7228 | 43 42 53.38 | 149.09 |
| .801 | .726 9523 | 7472 | 41 39 04.67 | 154.12 | .851 | .763 6902 | 7223 | 43 45 22.41 | 148.98 |
| .802 | .727 6992 | 7467 | 41 41 38.74 | 154.02 | .852 | .764 4122 | 7218 | 43 47 51.34 | 148.88 |
| .803 | .728 4457 | 7462 | 41 44 12.71 | 153.92 | .853 | .765 1338 | 7213 | 43 50 20.17 | 148.78 |
| .804 | .729 1916 | 7457 | 41 46 46.57 | 153.81 | .854 | .765 8548 | 7208 | 43 52 48.89 | 148.67 |
| 0.805 | 0.729 9371 | 7452 | 41 49 20.34 | 153.71 | 0.855 | 0.766 5754 | 7203 | 43 55 17.52 | 148.57 |
| .806 | .730 6821 | 7447 | 41 51 54.00 | 153.61 | .856 | .767 2954 | 7198 | 43 57 46.04 | 148.47 |
| .807 | .731 4266 | 7442 | 41 54 27.56 | 153.51 | .857 | .768 0149 | 7193 | 44 00 14.45 | 148.36 |
| .808 | .732 1705 | 7437 | 41 57 01.01 | 153.40 | .858 | .768 7340 | 7188 | 44 02 42.76 | 148.26 |
| .809 | .732 9140 | 7432 | 41 59 34.36 | 153.30 | .859 | .769 4525 | 7183 | 44 05 10.97 | 148.16 |
| 0.810 | 0.733 6570 | 7427 | 42 02 07.62 | 153.20 | 0.860 | 0.770 1706 | 7178 | 44 07 39.08 | 148.06 |
| .811 | .734 3995 | 7422 | 42 04 40.76 | 153.10 | .861 | .770 8881 | 7173 | 44 10 07.08 | 147.95 |
| .812 | .735 1414 | 7417 | 42 07 13.81 | 152.99 | .862 | .771 6051 | 7168 | 44 12 34.98 | 147.85 |
| .813 | .735 8829 | 7412 | 42 09 46.75 | 152.89 | .863 | .772 3217 | 7163 | 44 15 02.78 | 147.75 |
| .814 | .736 6239 | 7407 | 42 12 19.59 | 152.79 | .864 | .773 0377 | 7158 | 44 17 30.48 | 147.64 |
| 0.815 | 0.737 3644 | 7402 | 42 14 52.33 | 152.69 | 0.865 | 0.773 7533 | 7153 | 44 19 58.07 | 147.54 |
| .816 | .738 1044 | 7397 | 42 17 24.96 | 152.58 | .866 | .774 4683 | 7148 | 44 22 25.96 | 147.44 |
| .817 | .738 8439 | 7392 | 42 19 57.50 | 152.48 | .867 | .775 1829 | 7143 | 44 24 52.94 | 147.33 |
| .818 | .739 5829 | 7387 | 42 22 29.93 | 152.38 | .868 | .775 8969 | 7138 | 44 27 20.22 | 147.23 |
| .819 | .740 3214 | 7383 | 42 25 02.25 | 152.28 | .869 | .776 6104 | 7133 | 44 29 47.40 | 147.13 |
| 0.820 | 0.741 0594 | 7378 | 42 27 34.48 | 152.17 | 0.870 | 0.777 3235 | 7128 | 44 32 14.48 | 147.02 |
| .821 | .741 7999 | 7373 | 42 30 06.60 | 152.07 | .871 | .778 0360 | 7123 | 44 34 41.45 | 146.92 |
| .822 | .742 5339 | 7368 | 42 32 38.62 | 151.97 | .872 | .778 7481 | 7118 | 44 37 08.32 | 146.82 |
| .823 | .743 2704 | 7363 | 42 35 10.53 | 151.86 | .873 | .779 4596 | 7113 | 44 39 35.09 | 146.71 |
| .824 | .744 0064 | 7358 | 42 37 42.34 | 151.76 | .874 | .780 1707 | 7108 | 44 42 01.75 | 146.61 |
| 0.825 | 0.744 7420 | 7353 | 42 40 14.05 | 151.66 | 0.875 | 0.780 8812 | 7103 | 44 44 28.31 | 146.51 |
| .826 | .745 4770 | 7348 | 42 42 45.66 | 151.56 | .876 | .781 5912 | 7098 | 44 46 54.77 | 146.41 |
| .827 | .746 2115 | 7343 | 42 45 17.17 | 151.45 | .877 | .782 3008 | 7093 | 44 49 21.12 | 146.30 |
| .828 | .746 9455 | 7338 | 42 47 48.57 | 151.35 | .878 | .783 0098 | 7088 | 44 51 47.37 | 146.20 |
| .829 | .747 6790 | 7333 | 42 50 19.87 | 151.25 | .879 | .783 7184 | 7083 | 44 54 13.52 | 146.10 |
| 0.830 | 0.748 4120 | 7328 | 42 52 51.06 | 151.14 | 0.880 | 0.784 4264 | 7078 | 44 56 39.56 | 145.99 |
| .831 | .749 1446 | 7323 | 42 55 22.16 | 151.04 | .881 | .785 1340 | 7073 | 44 59 05.50 | 145.89 |
| .832 | .749 8766 | 7318 | 42 57 53.15 | 150.94 | .882 | .785 8410 | 7068 | 45 01 31.34 | 145.79 |
| .833 | .750 6081 | 7313 | 43 00 24.04 | 150.84 | .883 | .786 5476 | 7063 | 45 03 57.08 | 145.68 |
| .834 | .751 3391 | 7308 | 43 02 54.82 | 150.73 | .884 | .787 2536 | 7058 | 45 06 22.71 | 145.58 |
| 0.835 | 0.752 0697 | 7303 | 43 05 25.50 | 150.63 | 0.885 | 0.787 9591 | 7053 | 45 08 48.24 | 145.48 |
| .836 | .752 7997 | 7298 | 43 07 56.08 | 150.53 | .886 | .788 6642 | 7048 | 45 11 13.66 | 145.37 |
| .837 | .753 5292 | 7293 | 43 10 26.56 | 150.42 | .887 | .789 3687 | 7043 | 45 13 38.99 | 145.27 |
| .838 | .754 2582 | 7288 | 43 12 56.93 | 150.32 | .888 | .790 0728 | 7038 | 45 16 04.21 | 145.17 |
| .839 | .754 9868 | 7283 | 43 15 27.20 | 150.22 | .889 | .790 7763 | 7033 | 45 18 29.32 | 145.06 |
| 0.840 | 0.755 7148 | 7278 | 43 17 57.37 | 150.12 | 0.890 | 0.791 4794 | 7028 | 45 20 54.34 | 144.96 |
| .841 | .756 4423 | 7273 | 43 20 27.43 | 150.01 | .891 | .792 1819 | 7023 | 45 23 19.25 | 144.86 |
| .842 | .757 1694 | 7268 | 43 22 57.39 | 149.91 | .892 | .792 8839 | 7018 | 45 25 44.05 | 144.76 |
| .843 | .757 8959 | 7263 | 43 25 27.25 | 149.81 | .893 | .793 5855 | 7013 | 45 28 08.76 | 144.65 |
| .844 | .758 6219 | 7258 | 43 27 57.01 | 149.70 | .894 | .794 2865 | 7008 | 45 30 33.36 | 144.55 |
| 0.845 | 0.759 3475 | 7253 | 43 30 26.66 | 149.60 | 0.895 | 0.794 9871 | 7003 | 45 32 57.85 | 144.45 |
| .846 | .760 0725 | 7248 | 43 32 56.21 | 149.50 | .896 | .795 6871 | 6998 | 45 35 22.25 | 144.34 |
| .847 | .760 7970 | 7243 | 43 35 25.65 | 149.39 | .897 | .796 3867 | 6993 | 45 37 46.54 | 144.24 |
| .848 | .761 5211 | 7238 | 43 37 55.00 | 149.29 | .898 | .797 0857 | 6988 | 45 40 10.73 | 144.14 |
| .849 | .762 2446 | 7233 | 43 40 24.24 | 149.19 | .899 | .797 7843 | 6983 | 45 42 34.81 | 144.03 |
| 0.850 | 0.762 9677 | 7228 | 43 42 53.38 | 149.09 | 0.900 | 0.798 4823 | 6978 | 45 44 58.80 | 143.93 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|
| 0.900 | 0.708 4823 | 6978 | 45 44 58.80 | 143.93 | 0.950 | 0.832 7479 | 6728 | 47 42 46.58 | 138.78 |
| .901 | .799 1798 | 6973 | 45 47 22.67 | 143.83 | .951 | .833 4205 | 6723 | 47 45 05.31 | 138.68 |
| .902 | .799 8769 | 6968 | 45 49 46.45 | 143.72 | .952 | .834 0926 | 6719 | 47 47 23.94 | 138.58 |
| .903 | .800 5734 | 6963 | 45 52 10.12 | 143.62 | .953 | .834 7642 | 6714 | 47 49 42.47 | 138.48 |
| .904 | .801 2095 | 6958 | 45 54 33.69 | 143.52 | .954 | .835 4353 | 6709 | 47 52 00.89 | 138.37 |
| 0.905 | 0.801 9650 | 6953 | 45 56 57.16 | 143.42 | 0.955 | 0.836 1059 | 6704 | 47 54 19.22 | 138.27 |
| .906 | .802 6601 | 6948 | 45 59 20.52 | 143.31 | .956 | .836 7760 | 6699 | 47 56 37.44 | 138.17 |
| .907 | .803 3546 | 6943 | 46 01 43.78 | 143.21 | .957 | .837 4456 | 6694 | 47 58 55.55 | 138.07 |
| .908 | .804 0487 | 6938 | 46 04 06.94 | 143.11 | .958 | .838 1147 | 6689 | 48 01 13.57 | 137.96 |
| .909 | .804 7422 | 6933 | 46 06 30.00 | 143.00 | .959 | .838 7833 | 6684 | 48 03 31.48 | 137.86 |
| 0.910 | 0.805 4353 | 6928 | 46 08 52.95 | 142.90 | 0.960 | 0.839 4514 | 6679 | 48 05 49.29 | 137.76 |
| .911 | .806 1278 | 6923 | 46 11 15.79 | 142.80 | .961 | .840 1191 | 6674 | 48 08 07.00 | 137.66 |
| .912 | .806 8198 | 6918 | 46 13 38.54 | 142.69 | .962 | .840 7862 | 6669 | 48 10 24.60 | 137.55 |
| .913 | .807 5114 | 6913 | 46 16 01.18 | 142.59 | .963 | .841 4528 | 6664 | 48 12 42.10 | 137.45 |
| .914 | .808 2024 | 6908 | 46 18 23.72 | 142.49 | .964 | .842 1190 | 6659 | 48 14 59.50 | 137.35 |
| 0.915 | 0.808 8930 | 6903 | 46 20 46.16 | 142.38 | 0.965 | 0.842 7846 | 6654 | 48 17 16.80 | 137.25 |
| .916 | .809 5830 | 6898 | 46 23 08.49 | 142.28 | .966 | .843 4497 | 6649 | 48 19 33.99 | 137.14 |
| .917 | .810 2726 | 6893 | 46 25 30.72 | 142.18 | .967 | .844 1144 | 6644 | 48 21 51.09 | 137.04 |
| .918 | .810 9616 | 6888 | 46 27 52.85 | 142.08 | .968 | .844 7785 | 6639 | 48 24 08.08 | 136.94 |
| .919 | .811 6502 | 6883 | 46 30 14.87 | 141.97 | .969 | .845 4422 | 6634 | 48 26 24.96 | 136.84 |
| 0.920 | 0.812 3383 | 6878 | 46 32 36.79 | 141.87 | 0.970 | 0.846 1053 | 6629 | 48 28 41.75 | 136.73 |
| .921 | .813 0258 | 6873 | 46 34 58.61 | 141.77 | .971 | .846 7680 | 6624 | 48 30 58.43 | 136.63 |
| .922 | .813 7129 | 6868 | 46 37 20.33 | 141.66 | .972 | .847 4301 | 6619 | 48 33 15.01 | 136.53 |
| .923 | .814 3994 | 6863 | 46 39 41.94 | 141.56 | .973 | .848 0918 | 6614 | 48 35 31.49 | 136.43 |
| .924 | .815 0855 | 6858 | 46 42 03.45 | 141.46 | .974 | .848 7530 | 6609 | 48 37 47.87 | 136.32 |
| 0.925 | 0.815 7710 | 6853 | 46 44 24.85 | 141.35 | 0.975 | 0.849 4136 | 6604 | 48 40 04.14 | 136.22 |
| .926 | .816 4561 | 6848 | 46 46 46.16 | 141.25 | .976 | .850 0738 | 6599 | 48 42 20.31 | 136.12 |
| .927 | .817 1406 | 6843 | 46 49 07.36 | 141.15 | .977 | .850 7335 | 6594 | 48 44 36.38 | 136.02 |
| .928 | .817 8247 | 6838 | 46 51 28.45 | 141.05 | .978 | .851 3927 | 6589 | 48 46 52.34 | 135.92 |
| .929 | .818 5083 | 6833 | 46 53 49.45 | 140.94 | .979 | .852 0514 | 6584 | 48 49 08.21 | 135.81 |
| 0.930 | 0.819 1913 | 6828 | 46 56 10.34 | 140.84 | 0.980 | 0.852 7096 | 6579 | 48 51 23.97 | 135.71 |
| .931 | .819 8739 | 6823 | 46 58 31.13 | 140.74 | .981 | .853 3673 | 6574 | 48 53 39.63 | 135.61 |
| .932 | .820 5560 | 6818 | 47 00 51.81 | 140.63 | .982 | .854 0245 | 6570 | 48 55 55.19 | 135.51 |
| .933 | .821 2375 | 6813 | 47 03 12.40 | 140.53 | .983 | .854 6812 | 6565 | 48 58 10.64 | 135.40 |
| .934 | .821 9186 | 6808 | 47 05 32.88 | 140.43 | .984 | .855 3374 | 6560 | 49 00 26.00 | 135.30 |
| 0.935 | 0.822 5992 | 6803 | 47 07 53.25 | 140.33 | 0.985 | 0.855 9931 | 6555 | 49 02 41.25 | 135.20 |
| .936 | .823 2792 | 6798 | 47 10 13.53 | 140.22 | .986 | .856 6483 | 6550 | 49 04 56.40 | 135.10 |
| .937 | .823 9588 | 6793 | 47 12 33.70 | 140.12 | .987 | .857 3030 | 6545 | 49 07 11.44 | 135.00 |
| .938 | .824 6379 | 6788 | 47 14 53.77 | 140.02 | .988 | .857 9573 | 6540 | 49 09 26.39 | 134.89 |
| .939 | .825 3164 | 6783 | 47 17 13.74 | 139.91 | .989 | .858 6110 | 6535 | 49 11 41.23 | 134.79 |
| 0.940 | 0.825 9945 | 6778 | 47 19 33.60 | 139.81 | 0.990 | 0.859 2642 | 6530 | 49 13 55.97 | 134.69 |
| .941 | .826 6721 | 6773 | 47 21 53.36 | 139.71 | .991 | .859 9170 | 6525 | 49 16 10.61 | 134.59 |
| .942 | .827 3492 | 6768 | 47 24 13.02 | 139.61 | .992 | .860 5692 | 6520 | 49 18 25.15 | 134.49 |
| .943 | .828 0257 | 6763 | 47 26 32.57 | 139.50 | .993 | .861 2210 | 6515 | 49 20 39.58 | 134.38 |
| .944 | .828 7018 | 6758 | 47 28 52.02 | 139.40 | .994 | .861 8723 | 6510 | 49 22 53.92 | 134.28 |
| 0.945 | 0.829 3774 | 6753 | 47 31 11.37 | 139.30 | 0.995 | 0.862 5230 | 6505 | 49 25 08.15 | 134.18 |
| .946 | .830 0525 | 6748 | 47 33 30.62 | 139.20 | .996 | .863 1733 | 6500 | 49 27 22.28 | 135.08 |
| .947 | .830 7271 | 6743 | 47 35 49.76 | 139.09 | .997 | .863 8231 | 6495 | 49 29 36.30 | 133.98 |
| .948 | .831 4012 | 6738 | 47 38 08.80 | 138.99 | .998 | .864 4724 | 6490 | 49 31 50.23 | 133.87 |
| .949 | .832 0748 | 6733 | 47 40 27.74 | 138.89 | .999 | .865 1112 | 6485 | 49 34 04.05 | 133.77 |
| 0.950 | 0.832 7479 | 6728 | 47 42 46.58 | 138.78 | 1.000 | 0.865 7695 | 6481 | 49 36 17.77 | 133.67 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I.000 | 0.865 7695 | 6481 | 49 36 17.77 | 133.67 | I.050 | 0.897 5576 | 6235 | 51 25 34.55 | 128.61 |
| .001 | .866 4173 | 6476 | 49 38 31.39 | 133.57 | .051 | .898 1809 | 6230 | 51 27 43.11 | 128.51 |
| .002 | .867 0646 | 6471 | 49 40 44.91 | 133.47 | .052 | .898 8037 | 6225 | 51 29 51.57 | 128.41 |
| .003 | .867 7114 | 6466 | 49 42 58.33 | 133.37 | .053 | .899 4260 | 6221 | 51 31 59.92 | 128.31 |
| .004 | .868 3578 | 6461 | 49 45 11.64 | 133.26 | .054 | .900 0478 | 6216 | 51 34 08.18 | 128.21 |
| I.005 | 0.869 0036 | 6456 | 49 47 24.86 | 133.16 | I.055 | 0.900 6691 | 6211 | 51 36 16.34 | 128.11 |
| .006 | .870 6489 | 6451 | 49 49 37.97 | 133.06 | .056 | .901 2900 | 6206 | 51 38 24.40 | 128.01 |
| .007 | .870 2938 | 6446 | 49 51 50.98 | 132.96 | .057 | .901 9103 | 6201 | 51 40 32.36 | 127.91 |
| .008 | .870 9381 | 6441 | 49 54 03.89 | 132.86 | .058 | .892 5302 | 6196 | 51 42 40.21 | 127.81 |
| .009 | .871 5820 | 6436 | 49 56 16.69 | 132.76 | .059 | .903 1496 | 6191 | 51 44 47.97 | 127.71 |
| I.010 | 0.872 2254 | 6431 | 49 58 29.40 | 132.65 | I.060 | 0.903 7685 | 6187 | 51 46 55.63 | 127.61 |
| .011 | .872 8682 | 6426 | 50 00 42.00 | 132.55 | .061 | .904 3869 | 6182 | 51 49 03.18 | 127.51 |
| .012 | .873 5106 | 6421 | 50 02 54.50 | 132.45 | .062 | .905 0048 | 6177 | 51 51 10.64 | 127.41 |
| .013 | .874 1525 | 6416 | 50 05 06.90 | 132.35 | .063 | .905 6222 | 6172 | 51 53 18.00 | 127.31 |
| .014 | .874 7939 | 6412 | 50 07 19.20 | 132.25 | .064 | .906 2392 | 6167 | 51 55 25.25 | 127.21 |
| I.015 | 0.875 4348 | 6407 | 50 09 31.40 | 132.15 | I.065 | 0.906 8557 | 6162 | 51 57 32.41 | 127.11 |
| .016 | .876 0752 | 6402 | 50 11 43.49 | 132.04 | .066 | .907 4716 | 6157 | 51 59 39.46 | 127.01 |
| .017 | .876 7152 | 6397 | 50 13 55.49 | 131.94 | .067 | .908 0871 | 6153 | 52 01 46.42 | 126.91 |
| .018 | .877 3546 | 6392 | 50 16 07.38 | 131.84 | .068 | .908 7022 | 6148 | 52 03 53.27 | 126.81 |
| .019 | .877 9936 | 6387 | 50 18 19.17 | 131.74 | .069 | .909 3167 | 6143 | 52 06 00.03 | 126.71 |
| I.020 | 0.878 6320 | 6382 | 50 20 30.86 | 131.64 | I.070 | 0.909 9307 | 6138 | 52 08 06.68 | 126.61 |
| .021 | .879 2700 | 6377 | 50 22 42.45 | 131.54 | .071 | .910 5443 | 6133 | 52 10 13.24 | 126.51 |
| .022 | .879 9074 | 6372 | 50 24 53.94 | 131.44 | .072 | .911 1574 | 6128 | 52 12 19.70 | 126.41 |
| .023 | .880 5444 | 6367 | 50 27 05.32 | 131.34 | .073 | .911 7699 | 6123 | 52 14 26.05 | 126.31 |
| .024 | .881 1809 | 6362 | 50 29 16.61 | 131.23 | .074 | .912 3821 | 6118 | 52 16 32.31 | 126.21 |
| I.025 | 0.881 8169 | 6357 | 50 31 27.79 | 131.13 | I.075 | 0.912 9937 | 6114 | 52 18 38.46 | 126.11 |
| .026 | .882 4524 | 6353 | 50 33 38.87 | 131.03 | .076 | .913 6048 | 6109 | 52 20 44.52 | 126.01 |
| .027 | .883 0874 | 6348 | 50 35 49.85 | 130.93 | .077 | .914 2155 | 6104 | 52 22 50.48 | 125.91 |
| .028 | .883 7219 | 6343 | 50 38 00.73 | 130.83 | .078 | .914 8256 | 6099 | 52 24 56.33 | 125.81 |
| .029 | .884 3560 | 6338 | 50 40 11.51 | 130.73 | .079 | .915 4353 | 6094 | 52 27 02.09 | 125.71 |
| I.030 | 0.884 9895 | 6333 | 50 42 22.19 | 130.63 | I.080 | 0.916 0445 | 6090 | 52 29 07.75 | 125.61 |
| .031 | .885 6226 | 6328 | 50 44 32.76 | 130.53 | .081 | .916 6532 | 6085 | 52 31 13.30 | 125.51 |
| .032 | .886 2551 | 6323 | 50 46 43.24 | 130.42 | .082 | .917 2615 | 6080 | 52 33 18.76 | 125.41 |
| .033 | .886 8872 | 6318 | 50 48 53.61 | 130.32 | .083 | .917 8692 | 6075 | 52 35 24.12 | 125.31 |
| .034 | .887 5188 | 6313 | 50 51 03.89 | 130.22 | .084 | .918 4765 | 6070 | 52 37 29.38 | 125.21 |
| I.035 | 0.888 1499 | 6308 | 50 53 14.06 | 130.12 | I.085 | 0.919 0833 | 6065 | 52 39 34.54 | 125.11 |
| .036 | .888 7805 | 6304 | 50 55 24.13 | 130.02 | .086 | .919 6896 | 6061 | 52 41 39.60 | 125.01 |
| .037 | .889 4106 | 6299 | 50 57 34.10 | 129.92 | .087 | .920 2954 | 6056 | 52 43 44.56 | 124.91 |
| .038 | .890 0402 | 6294 | 50 59 43.97 | 129.82 | .088 | .920 9008 | 6051 | 52 45 49.42 | 124.81 |
| .039 | .890 6693 | 6289 | 51 01 53.74 | 129.72 | .089 | .921 5056 | 6046 | 52 47 54.18 | 124.71 |
| I.040 | 0.891 2980 | 6284 | 51 04 03.41 | 129.62 | I.090 | 0.922 1100 | 6041 | 52 49 58.85 | 124.61 |
| .041 | .891 9262 | 6279 | 51 06 12.98 | 129.52 | .091 | .922 7139 | 6037 | 52 52 03.41 | 124.51 |
| .042 | .892 5538 | 6274 | 51 08 22.44 | 129.42 | .092 | .923 3173 | 6032 | 52 54 07.87 | 124.41 |
| .043 | .893 1810 | 6269 | 51 10 31.81 | 129.32 | .093 | .923 9203 | 6027 | 52 56 12.24 | 124.32 |
| .044 | .893 8077 | 6264 | 51 12 41.07 | 129.21 | .094 | .924 5227 | 6022 | 52 58 16.50 | 124.22 |
| I.045 | 0.894 4339 | 6260 | 51 14 50.24 | 129.11 | I.095 | 0.925 1247 | 6017 | 53 00 20.67 | 124.12 |
| .046 | .895 0596 | 6255 | 51 16 59.30 | 129.01 | .096 | .925 7262 | 6013 | 53 02 24.74 | 124.02 |
| .047 | .895 6848 | 6250 | 51 19 08.26 | 128.91 | .097 | .926 3272 | 6008 | 53 04 28.70 | 123.92 |
| .048 | .896 3096 | 6245 | 51 21 17.12 | 128.81 | .098 | .926 9278 | 6003 | 53 06 32.57 | 123.82 |
| .049 | .896 9338 | 6240 | 51 23 25.88 | 128.71 | .099 | .927 5278 | 5998 | 53 08 36.34 | 123.72 |
| I.050 | 0.897 5576 | 6235 | 51 25 34.55 | 128.61 | I.100 | 0.928 1274 | 5993 | 53 10 40.01 | 123.62 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 1.100 | 0.928 1274 | 5903 | 53 10' 40.01 | 123.62 | 1.150 | 0.957 4980 | 5756 | 54 51' 38.15 | 118.72 |
| .101 | .928 7265 | 5980 | 53 12 43.59 | 123.52 | .151 | .958 0734 | 5751 | 54 53 36.82 | 118.62 |
| .102 | .929 3251 | 5984 | 53 14 47.00 | 123.42 | .152 | .958 6482 | 5740 | 54 55 35.39 | 118.53 |
| .103 | .929 9232 | 5979 | 53 16 50.43 | 123.32 | .153 | .959 2226 | 5742 | 54 57 33.87 | 118.43 |
| .104 | .930 5209 | 5974 | 53 18 53.71 | 123.23 | .154 | .959 7965 | 5737 | 54 59 32.25 | 118.33 |
| 1.105 | 0.931 1181 | 5969 | 53 20 56.89 | 123.13 | 1.155 | 0.960 3700 | 5732 | 55 01 30.53 | 118.23 |
| .106 | .931 7148 | 5965 | 53 22 59.96 | 123.03 | .156 | .960 9430 | 5727 | 55 03 28.72 | 118.14 |
| .107 | .932 3110 | 5960 | 53 25 02.94 | 122.93 | .157 | .961 5155 | 5723 | 55 05 26.81 | 118.04 |
| .108 | .932 9067 | 5955 | 53 27 05.82 | 122.83 | .158 | .962 0875 | 5718 | 55 07 24.80 | 117.94 |
| .109 | .933 5020 | 5950 | 53 29 08.60 | 122.73 | .159 | .962 6591 | 5713 | 55 09 22.69 | 117.85 |
| 1.110 | 0.934 0968 | 5945 | 53 31 11.29 | 122.63 | 1.160 | 0.963 2302 | 5709 | 55 11 20.49 | 117.75 |
| .111 | .934 6911 | 5941 | 53 33 13.87 | 122.54 | .161 | .963 8008 | 5704 | 55 13 18.19 | 117.65 |
| .112 | .935 2849 | 5936 | 53 35 16.36 | 122.44 | .162 | .964 3710 | 5699 | 55 15 15.80 | 117.56 |
| .113 | .935 8782 | 5931 | 53 37 18.75 | 122.34 | .163 | .964 9407 | 5695 | 55 17 13.31 | 117.46 |
| .114 | .936 4711 | 5926 | 53 39 21.03 | 122.24 | .164 | .965 5099 | 5690 | 55 19 10.72 | 117.36 |
| 1.115 | 0.937 0635 | 5922 | 53 41 23.22 | 122.14 | 1.165 | 0.966 0787 | 5685 | 55 21 08.04 | 117.27 |
| .116 | .937 6554 | 5917 | 53 43 25.32 | 122.04 | .166 | .966 6470 | 5681 | 55 23 05.26 | 117.17 |
| .117 | .938 2469 | 5912 | 53 45 27.31 | 122.94 | .167 | .967 2148 | 5676 | 55 25 02.38 | 117.07 |
| .118 | .938 8378 | 5907 | 53 47 29.21 | 121.85 | .168 | .967 7822 | 5671 | 55 26 59.41 | 116.98 |
| .119 | .939 4283 | 5902 | 53 49 31.00 | 121.75 | .169 | .968 3491 | 5667 | 55 28 56.34 | 116.88 |
| 1.120 | 0.940 0183 | 5898 | 53 51 32.70 | 121.65 | 1.170 | 0.968 9155 | 5662 | 55 30 53.17 | 116.79 |
| .121 | .940 6079 | 5893 | 53 53 34.30 | 121.55 | .171 | .969 4815 | 5657 | 55 32 49.91 | 116.69 |
| .122 | .941 1969 | 5888 | 53 55 35.80 | 121.45 | .172 | .970 0470 | 5653 | 55 34 46.55 | 116.59 |
| .123 | .941 7855 | 5883 | 53 57 37.21 | 121.35 | .173 | .970 6120 | 5648 | 55 36 43.10 | 116.50 |
| .124 | .942 3736 | 5879 | 53 59 38.51 | 121.26 | .174 | .971 1766 | 5643 | 55 38 39.54 | 116.40 |
| 1.125 | 0.942 9613 | 5874 | 54 01 39.72 | 121.16 | 1.175 | 0.971 7407 | 5639 | 55 40 35.90 | 116.31 |
| .126 | .943 5484 | 5869 | 54 03 40.83 | 121.06 | .176 | .972 3043 | 5634 | 55 42 32.16 | 116.21 |
| .127 | .944 1351 | 5864 | 54 05 41.84 | 120.96 | .177 | .972 8675 | 5629 | 55 44 28.32 | 116.11 |
| .128 | .944 7213 | 5860 | 54 07 42.76 | 120.86 | .178 | .973 4301 | 5625 | 55 46 24.38 | 116.02 |
| .129 | .945 3070 | 5855 | 54 09 43.57 | 120.77 | .179 | .973 9924 | 5620 | 55 48 20.35 | 115.92 |
| 1.130 | 0.945 8923 | 5850 | 54 11 44.29 | 120.67 | 1.180 | 0.974 5542 | 5615 | 55 50 16.22 | 115.83 |
| .131 | .946 4771 | 5845 | 54 13 44.91 | 120.57 | .181 | .975 1155 | 5611 | 55 52 12.00 | 115.73 |
| .132 | .947 0614 | 5841 | 54 15 45.43 | 120.47 | .182 | .975 6763 | 5606 | 55 54 07.68 | 115.63 |
| .133 | .947 6452 | 5836 | 54 17 45.86 | 120.38 | .183 | .976 2367 | 5601 | 55 56 03.27 | 115.54 |
| .134 | .948 2286 | 5831 | 54 19 46.18 | 120.28 | .184 | .976 7966 | 5597 | 55 57 58.76 | 115.44 |
| 1.135 | 0.948 8115 | 5826 | 54 21 46.41 | 120.18 | 1.185 | 0.977 3560 | 5592 | 55 59 54.15 | 115.35 |
| .136 | .949 3939 | 5822 | 54 23 46.54 | 120.08 | .186 | .977 9150 | 5588 | 56 01 49.45 | 115.25 |
| .137 | .949 9758 | 5817 | 54 25 46.58 | 119.98 | .187 | .978 4735 | 5583 | 56 03 44.66 | 115.16 |
| .138 | .950 5573 | 5812 | 54 27 46.51 | 119.89 | .188 | .979 0316 | 5578 | 56 05 39.76 | 115.06 |
| .139 | .951 1383 | 5807 | 54 29 46.35 | 119.79 | .189 | .979 5892 | 5574 | 56 07 34.78 | 114.96 |
| 1.140 | 0.951 7188 | 5803 | 54 31 46.09 | 119.69 | 1.190 | 0.980 1463 | 5569 | 56 09 29.69 | 114.87 |
| .141 | .952 2988 | 5798 | 54 33 45.74 | 119.59 | .191 | .980 7030 | 5564 | 56 11 24.51 | 114.77 |
| .142 | .952 8784 | 5793 | 54 35 45.28 | 119.50 | .192 | .981 2592 | 5560 | 56 13 19.24 | 114.68 |
| .143 | .953 4575 | 5789 | 54 37 44.73 | 119.40 | .193 | .981 8149 | 5555 | 56 15 13.87 | 114.58 |
| .144 | .954 0361 | 5784 | 54 39 44.08 | 119.30 | .194 | .982 3702 | 5551 | 56 17 08.41 | 114.49 |
| 1.145 | 0.954 6143 | 5779 | 54 41 43.34 | 119.21 | 1.195 | 0.982 9251 | 5546 | 56 19 02.85 | 114.39 |
| .146 | .955 1920 | 5775 | 54 43 42.49 | 119.11 | .196 | .983 4794 | 5541 | 56 20 57.19 | 114.30 |
| .147 | .955 7692 | 5770 | 54 45 41.55 | 119.01 | .197 | .984 0333 | 5537 | 56 22 51.44 | 114.20 |
| .148 | .956 3460 | 5765 | 54 47 40.51 | 118.91 | .198 | .984 5868 | 5532 | 56 24 45.60 | 114.11 |
| .149 | .956 9222 | 5760 | 54 49 39.38 | 118.82 | .199 | .985 1397 | 5527 | 56 26 39.66 | 114.01 |
| 1.150 | 0.957 4980 | 5756 | 54 51 38.15 | 118.72 | 1.200 | 0.985 6922 | 5523 | 56 28 33.62 | 113.92 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I.200 | 0.985 6922 | 5523 | 56° 28' 33.62" | 113.92 | I.250 | 1.012 7356 | 5295 | 58° 01' 31.72" | 109.23 |
| .201 | .986 2443 | 5518 | 56° 30' 27.49" | 113.82 | .251 | .013 2649 | 5291 | 58° 03' 20.89" | 109.13 |
| .202 | .986 7959 | 5514 | 56° 32' 21.26" | 113.73 | .252 | .013 7938 | 5286 | 58° 05' 09.98" | 109.04 |
| .203 | .987 3470 | 5509 | 56° 34' 14.94" | 113.63 | .253 | .014 3222 | 5282 | 58° 06' 58.98" | 108.95 |
| .204 | .987 8977 | 5504 | 56° 36' 08.53" | 113.54 | .254 | .014 8502 | 5277 | 58° 08' 47.88" | 108.86 |
| I.205 | 0.988 4479 | 5500 | 56° 38' 02.02" | 113.44 | I.255 | 1.015 3777 | 5273 | 58° 10' 36.69" | 108.76 |
| .206 | .988 9977 | 5495 | 56° 39' 55.42" | 113.35 | .256 | .015 9048 | 5269 | 58° 12' 25.40" | 108.67 |
| .207 | .989 5470 | 5491 | 56° 41' 48.72" | 113.25 | .257 | .016 4314 | 5264 | 58° 14' 14.03" | 108.58 |
| .208 | .990 0958 | 5486 | 56° 43' 41.92" | 113.16 | .258 | .016 9576 | 5260 | 58° 16' 02.56" | 108.49 |
| .209 | .990 6442 | 5482 | 56° 45' 35.03" | 113.06 | .259 | .017 4833 | 5255 | 58° 17' 51.00" | 108.39 |
| I.210 | 0.991 1921 | 5477 | 56° 47' 28.05" | 112.97 | I.260 | 1.018 0086 | 5251 | 58° 19' 39.35" | 108.30 |
| .211 | .991 7396 | 5472 | 56° 49' 20.97" | 112.88 | .261 | .018 5335 | 5246 | 58° 21' 27.61" | 108.21 |
| .212 | .992 2866 | 5468 | 56° 51' 13.80" | 112.78 | .262 | .019 0578 | 5242 | 58° 23' 15.77" | 108.12 |
| .213 | .992 8331 | 5463 | 56° 53' 06.54" | 112.69 | .263 | .019 5818 | 5237 | 58° 25' 03.84" | 108.03 |
| .214 | .993 3792 | 5459 | 56° 54' 59.17" | 112.59 | .264 | .020 1053 | 5233 | 58° 26' 51.82" | 107.93 |
| I.215 | 0.993 9249 | 5454 | 56° 56' 51.72" | 112.50 | I.265 | 1.020 6283 | 5228 | 58° 28' 39.71" | 107.84 |
| .216 | .994 4700 | 5449 | 56° 58' 44.17" | 112.40 | .266 | .021 1510 | 5224 | 58° 30' 27.50" | 107.75 |
| .217 | .995 0148 | 5445 | 57° 00' 36.53" | 112.31 | .267 | .021 6731 | 5219 | 58° 32' 15.21" | 107.66 |
| .218 | .995 5590 | 5440 | 57° 02' 28.79" | 112.22 | .268 | .022 1948 | 5215 | 58° 34' 02.82" | 107.57 |
| .219 | .996 1028 | 5436 | 57° 04' 20.96" | 112.12 | .269 | .022 7161 | 5210 | 58° 35' 50.34" | 107.47 |
| I.220 | 0.996 6462 | 5431 | 57° 06' 13.03" | 112.03 | I.270 | 1.023 2369 | 5206 | 58° 37' 37.77" | 107.38 |
| .221 | .997 1891 | 5427 | 57° 08' 05.01" | 111.93 | .271 | .023 7573 | 5202 | 58° 39' 25.10" | 107.29 |
| .222 | .997 7315 | 5422 | 57° 09' 56.90" | 111.84 | .272 | .024 2772 | 5197 | 58° 41' 12.35" | 107.20 |
| .223 | .998 2735 | 5418 | 57° 11' 48.69" | 111.74 | .273 | .024 7967 | 5193 | 58° 42' 59.50" | 107.11 |
| .224 | .998 8150 | 5413 | 57° 13' 40.39" | 111.65 | .274 | .025 3158 | 5188 | 58° 44' 46.56" | 107.02 |
| I.225 | 0.999 3561 | 5408 | 57° 15' 31.99" | 111.56 | I.275 | 1.025 8344 | 5184 | 58° 46' 33.53" | 106.92 |
| .226 | .999 8967 | 5404 | 57° 17' 23.50" | 111.46 | .276 | .026 3526 | 5179 | 58° 48' 20.41" | 106.83 |
| .227 | 1.000 4369 | 5399 | 57° 19' 14.92" | 111.37 | .277 | .026 8703 | 5175 | 58° 50' 07.20" | 106.74 |
| .228 | .000 9766 | 5395 | 57° 21' 06.24" | 111.28 | .278 | .027 3876 | 5171 | 58° 51' 53.90" | 106.65 |
| .229 | .001 5158 | 5390 | 57° 22' 57.47" | 111.18 | .279 | .027 9044 | 5166 | 58° 53' 40.50" | 106.56 |
| I.230 | 1.002 0546 | 5386 | 57° 24' 48.60" | 111.09 | I.280 | 1.028 4208 | 5162 | 58° 55' 27.02" | 106.47 |
| .231 | .002 5930 | 5381 | 57° 26' 39.64" | 110.99 | .281 | .028 9367 | 5157 | 58° 57' 13.44" | 106.38 |
| .232 | .003 1309 | 5377 | 57° 28' 30.59" | 110.90 | .282 | .029 4523 | 5153 | 58° 58' 59.77" | 106.29 |
| .233 | .003 6683 | 5372 | 57° 30' 21.45" | 110.81 | .283 | .029 9673 | 5148 | 59° 00' 46.01" | 106.19 |
| .234 | .004 2053 | 5368 | 57° 32' 12.21" | 110.71 | .284 | .030 4819 | 5144 | 59° 02' 32.16" | 106.10 |
| I.235 | 1.004 7418 | 5363 | 57° 34' 02.88" | 110.62 | I.285 | 1.030 9961 | 5140 | 59° 04' 18.22" | 106.01 |
| .236 | .005 2779 | 5359 | 57° 35' 53.45" | 110.53 | .286 | .031 5099 | 5135 | 59° 06' 04.19" | 105.92 |
| .237 | .005 8135 | 5354 | 57° 37' 43.93" | 110.43 | .287 | .032 0232 | 5131 | 59° 07' 50.06" | 105.83 |
| .238 | .006 3487 | 5349 | 57° 39' 34.32" | 110.34 | .288 | .032 5360 | 5126 | 59° 09' 35.85" | 105.74 |
| .239 | .006 8834 | 5345 | 57° 41' 24.61" | 110.25 | .289 | .033 0485 | 5122 | 59° 11' 21.54" | 105.65 |
| I.240 | 1.007 4177 | 5340 | 57° 43' 14.82" | 110.15 | I.290 | 1.033 5605 | 5118 | 59° 13' 07.15" | 105.56 |
| .241 | .007 9515 | 5336 | 57° 45' 04.92" | 110.06 | .291 | .034 0720 | 5113 | 59° 14' 52.66" | 105.47 |
| .242 | .008 4840 | 5331 | 57° 46' 54.94" | 109.97 | .292 | .034 5831 | 5109 | 59° 16' 38.08" | 105.38 |
| .243 | .009 0178 | 5327 | 57° 48' 44.86" | 109.88 | .293 | .035 0938 | 5104 | 59° 18' 23.41" | 105.29 |
| .244 | .009 5503 | 5322 | 57° 50' 34.69" | 109.78 | .294 | .035 6040 | 5100 | 59° 20' 08.66" | 105.20 |
| I.245 | 1.010 0823 | 5318 | 57° 52' 24.43" | 109.69 | I.295 | 1.036 1138 | 5096 | 59° 21' 53.81" | 105.11 |
| .246 | .010 6139 | 5313 | 57° 54' 14.07" | 109.60 | .296 | .036 6231 | 5091 | 59° 23' 38.87" | 105.02 |
| .247 | .011 1450 | 5309 | 57° 56' 03.62" | 109.50 | .297 | .037 1320 | 5087 | 59° 25' 23.84" | 104.93 |
| .248 | .011 6756 | 5304 | 57° 57' 53.08" | 109.41 | .298 | .037 6405 | 5083 | 59° 27' 08.72" | 104.83 |
| .249 | .012 2058 | 5300 | 57° 59' 42.44" | 109.32 | .299 | .038 1485 | 5078 | 59° 28' 53.51" | 104.74 |
| I.250 | 1.012 7356 | 5295 | 58° 01' 31.72" | 109.23 | I.300 | 1.038 6561 | 5074 | 59° 30' 38.21" | 104.65 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|--------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|--------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I. 300 | I. 038 6561 | 5074 | 59 30 38.21 | 104.65 | I. 350 | I. 063 4837 | 4858 | 60 55 59.27 | 100.21 |
| .301 | .039 1633 | 5069 | 59 32 22.82 | 104.56 | .351 | .063 9094 | 4854 | 60 57 39.43 | 100.12 |
| .302 | .039 6700 | 5065 | 59 34 07.34 | 104.47 | .352 | .064 4546 | 4850 | 60 59 19.51 | 100.03 |
| .303 | .040 1763 | 5061 | 59 35 51.77 | 104.38 | .353 | .064 9393 | 4846 | 61 00 59.50 | 99.95 |
| .304 | .040 6822 | 5056 | 59 37 36.10 | 104.29 | .354 | .065 4237 | 4841 | 61 02 39.41 | 99.86 |
| I. 305 | I. 041 1876 | 5052 | 59 39 20.35 | 104.20 | I. 355 | I. 065 9076 | 4837 | 61 04 19.22 | 99.77 |
| .306 | .041 6926 | 5048 | 59 41 04.51 | 104.11 | .356 | .066 3911 | 4833 | 61 05 58.95 | 99.69 |
| .307 | .042 1971 | 5043 | 59 42 48.58 | 104.02 | .357 | .066 8742 | 4829 | 61 07 38.59 | 99.60 |
| .308 | .042 7012 | 5039 | 59 44 32.56 | 103.93 | .358 | .067 3568 | 4824 | 61 09 18.15 | 99.51 |
| .309 | .043 2049 | 5035 | 59 46 16.45 | 103.84 | .359 | .067 8390 | 4820 | 61 10 57.61 | 99.42 |
| I. 310 | I. 043 7081 | 5030 | 59 48 00.25 | 103.76 | I. 360 | I. 068 3209 | 4816 | 61 12 36.99 | 99.34 |
| .311 | .044 2109 | 5026 | 59 49 43.96 | 103.67 | .361 | .068 8022 | 4812 | 61 14 16.29 | 99.25 |
| .312 | .044 7133 | 5021 | 59 51 27.58 | 103.58 | .362 | .069 2832 | 4808 | 61 15 55.49 | 99.16 |
| .313 | .045 2152 | 5017 | 59 53 11.11 | 103.49 | .363 | .069 7637 | 4803 | 61 17 34.61 | 99.08 |
| .314 | .045 7167 | 5013 | 59 54 54.55 | 103.40 | .364 | .070 2439 | 4799 | 61 19 13.64 | 98.99 |
| I. 315 | I. 046 2178 | 5008 | 59 56 37.91 | 103.31 | I. 365 | I. 070 7236 | 4795 | 61 20 52.59 | 98.90 |
| .316 | .046 7184 | 5004 | 59 58 21.17 | 103.22 | .366 | .071 2028 | 4791 | 61 22 31.45 | 98.82 |
| .317 | .047 2186 | 5000 | 60 00 04.34 | 103.13 | .367 | .071 6817 | 4786 | 61 24 10.22 | 98.73 |
| .318 | .047 7184 | 4995 | 60 01 47.43 | 103.04 | .368 | .072 1601 | 4782 | 61 25 48.90 | 98.64 |
| .319 | .048 2177 | 4991 | 60 03 30.42 | 102.95 | .369 | .072 6382 | 4778 | 61 27 27.50 | 98.56 |
| I. 320 | I. 048 7166 | 4987 | 60 05 13.33 | 102.86 | I. 370 | I. 073 1158 | 4774 | 61 29 06.01 | 98.47 |
| .321 | .049 2151 | 4983 | 60 06 56.14 | 102.77 | .371 | .073 5929 | 4770 | 61 30 44.44 | 98.38 |
| .322 | .049 7131 | 4978 | 60 08 38.87 | 102.68 | .372 | .074 0697 | 4766 | 61 32 22.78 | 98.30 |
| .323 | .050 2107 | 4974 | 60 10 21.51 | 102.59 | .373 | .074 5460 | 4761 | 61 34 01.03 | 98.21 |
| .324 | .050 7079 | 4970 | 60 12 04.06 | 102.50 | .374 | .075 0220 | 4757 | 61 35 39.20 | 98.12 |
| I. 325 | I. 051 2046 | 4965 | 60 13 46.52 | 102.42 | I. 375 | I. 075 4975 | 4753 | 61 37 17.28 | 98.04 |
| .326 | .051 7009 | 4961 | 60 15 28.89 | 102.33 | .376 | .075 9725 | 4749 | 61 38 55.27 | 97.95 |
| .327 | .052 1968 | 4957 | 60 17 11.17 | 102.24 | .377 | .076 4472 | 4745 | 61 40 33.18 | 97.86 |
| .328 | .052 6923 | 4952 | 60 18 53.37 | 102.15 | .378 | .076 9215 | 4740 | 61 42 11.00 | 97.78 |
| .329 | .053 1873 | 4948 | 60 20 35.47 | 102.06 | .379 | .077 3953 | 4736 | 61 43 48.73 | 97.69 |
| I. 330 | I. 053 6819 | 4944 | 60 22 17.49 | 101.97 | I. 380 | I. 077 8687 | 4732 | 61 45 26.38 | 97.61 |
| .331 | .054 1760 | 4939 | 60 23 59.41 | 101.88 | .381 | .078 3417 | 4728 | 61 47 03.94 | 97.52 |
| .332 | .054 6698 | 4935 | 60 25 41.25 | 101.79 | .382 | .078 8143 | 4724 | 61 48 41.42 | 97.43 |
| .333 | .055 1631 | 4931 | 60 27 23.00 | 101.71 | .383 | .079 2865 | 4720 | 61 50 18.81 | 97.35 |
| .334 | .055 6559 | 4927 | 60 29 04.67 | 101.62 | .384 | .079 7582 | 4715 | 61 51 56.12 | 97.26 |
| I. 335 | I. 056 1484 | 4922 | 60 30 46.24 | 101.53 | I. 385 | I. 080 2295 | 4711 | 61 53 33.34 | 97.18 |
| .336 | .056 6404 | 4918 | 60 32 27.72 | 101.44 | .386 | .080 7005 | 4707 | 61 55 10.47 | 97.09 |
| .337 | .057 1320 | 4914 | 60 34 09.12 | 101.35 | .387 | .081 1710 | 4703 | 61 56 47.52 | 97.01 |
| .338 | .057 6231 | 4909 | 60 35 50.43 | 101.26 | .388 | .081 6411 | 4699 | 61 58 24.48 | 96.92 |
| .339 | .058 1139 | 4905 | 60 37 31.65 | 101.18 | .389 | .082 1107 | 4695 | 62 00 01.36 | 96.83 |
| I. 340 | I. 058 6042 | 4901 | 60 39 12.78 | 101.09 | I. 390 | I. 082 5800 | 4691 | 62 01 38.15 | 96.75 |
| .341 | .059 0940 | 4897 | 60 40 53.83 | 101.00 | .391 | .083 0488 | 4686 | 62 03 14.86 | 96.66 |
| .342 | .059 5835 | 4892 | 60 42 34.78 | 100.91 | .392 | .083 5173 | 4682 | 62 04 51.48 | 96.58 |
| .343 | .060 0725 | 4888 | 60 44 15.65 | 100.82 | .393 | .083 9853 | 4678 | 62 06 28.01 | 96.49 |
| .344 | .060 5611 | 4884 | 60 45 56.43 | 100.74 | .394 | .084 4529 | 4674 | 62 08 04.46 | 96.41 |
| I. 345 | I. 061 0493 | 4880 | 60 47 37.12 | 100.65 | I. 395 | I. 084 9201 | 4670 | 62 09 40.83 | 96.32 |
| .346 | .061 5370 | 4875 | 60 49 17.73 | 100.56 | .396 | .085 3868 | 4666 | 62 11 17.11 | 96.24 |
| .347 | .062 0243 | 4871 | 60 50 58.24 | 100.47 | .397 | .085 8532 | 4662 | 62 12 53.30 | 96.15 |
| .348 | .062 5112 | 4867 | 60 52 38.67 | 100.38 | .398 | .086 3192 | 4657 | 62 14 29.41 | 96.07 |
| .349 | .062 9977 | 4863 | 60 54 19.01 | 100.30 | .399 | .086 7847 | 4653 | 62 16 05.44 | 95.98 |
| I. 350 | I. 063 4837 | 4858 | 60 55 59.27 | 100.21 | I. 400 | I. 087 2498 | 4649 | 62 17 41.37 | 95.90 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|
| I.400 | I.087 2498 | 4649 | 62 17 41.37 | 95.90 | I.450 | I.109 9869 | 4447 | 63 35 51.24 | 91.72 |
| .401 | .087 7145 | 4645 | 62 19 17.23 | 95.81 | .451 | .110 4314 | 4443 | 63 37 22.92 | 91.64 |
| .402 | .088 1788 | 4641 | 62 20 53.00 | 95.73 | .452 | .110 8755 | 4439 | 63 38 54.52 | 91.56 |
| .403 | .088 6427 | 4637 | 62 22 28.68 | 95.64 | .453 | .111 3192 | 4435 | 63 40 26.03 | 91.47 |
| .404 | .089 1062 | 4633 | 62 24 04.28 | 95.56 | .454 | .111 7624 | 4431 | 63 41 57.46 | 91.39 |
| I.405 | I.089 5693 | 4629 | 62 25 39.80 | 95.47 | I.455 | I.112 2053 | 4427 | 63 43 28.82 | 91.31 |
| .406 | .090 0320 | 4625 | 62 27 15.23 | 95.39 | .456 | .112 6478 | 4423 | 63 45 00.08 | 91.23 |
| .407 | .090 4942 | 4620 | 62 28 50.58 | 95.30 | .457 | .113 0899 | 4419 | 63 46 31.27 | 91.15 |
| .408 | .090 9561 | 4616 | 62 30 25.84 | 95.22 | .458 | .113 5316 | 4415 | 63 48 02.38 | 91.07 |
| .409 | .091 4175 | 4612 | 62 32 01.02 | 95.14 | .459 | .113 9729 | 4411 | 63 49 33.40 | 90.98 |
| I.410 | I.091 8785 | 4608 | 62 33 36.11 | 95.05 | I.460 | I.114 4138 | 4407 | 63 51 04.35 | 90.90 |
| .411 | .092 3391 | 4604 | 62 35 11.12 | 94.97 | .461 | .114 8543 | 4403 | 63 52 35.21 | 90.82 |
| .412 | .092 7993 | 4600 | 62 36 46.04 | 94.88 | .462 | .115 2944 | 4399 | 63 54 05.99 | 90.74 |
| .413 | .093 2591 | 4596 | 62 38 20.88 | 94.80 | .463 | .115 7341 | 4395 | 63 55 36.68 | 90.66 |
| .414 | .093 7185 | 4592 | 62 39 55.64 | 94.71 | .464 | .116 1734 | 4391 | 63 57 07.30 | 90.58 |
| I.415 | I.094 1775 | 4588 | 62 41 30.31 | 94.63 | I.465 | I.116 6124 | 4387 | 63 58 37.83 | 90.49 |
| .416 | .094 6361 | 4584 | 62 43 04.90 | 94.55 | .466 | .117 0509 | 4383 | 64 00 08.29 | 90.41 |
| .417 | .095 0942 | 4580 | 62 44 39.40 | 94.46 | .467 | .117 4890 | 4379 | 64 01 38.66 | 90.33 |
| .418 | .095 5520 | 4576 | 62 46 13.82 | 94.38 | .468 | .117 9268 | 4375 | 64 03 08.95 | 90.25 |
| .419 | .096 0094 | 4571 | 62 47 48.16 | 94.29 | .469 | .118 3641 | 4372 | 64 04 39.16 | 90.17 |
| I.420 | I.096 4663 | 4567 | 62 49 22.41 | 94.21 | I.470 | I.118 8011 | 4368 | 64 06 09.29 | 90.09 |
| .421 | .096 9228 | 4563 | 62 50 56.58 | 94.13 | .471 | .119 2377 | 4364 | 64 07 39.34 | 90.01 |
| .422 | .097 3790 | 4559 | 62 52 30.66 | 94.04 | .472 | .119 6738 | 4360 | 64 09 09.31 | 89.93 |
| .423 | .097 8347 | 4555 | 62 54 04.66 | 93.96 | .473 | .120 1096 | 4356 | 64 10 39.19 | 89.85 |
| .424 | .098 2900 | 4551 | 62 55 38.58 | 93.88 | .474 | .120 5450 | 4352 | 64 12 09.00 | 89.76 |
| I.425 | I.098 7449 | 4547 | 62 57 12.41 | 93.79 | I.475 | I.120 9800 | 4348 | 64 13 38.72 | 89.68 |
| .426 | .099 1994 | 4543 | 62 58 46.16 | 93.71 | .476 | .121 4146 | 4344 | 64 15 08.37 | 89.60 |
| .427 | .099 6536 | 4539 | 63 00 19.83 | 93.62 | .477 | .121 8488 | 4340 | 64 16 37.93 | 89.52 |
| .428 | .100 1073 | 4535 | 63 01 53.41 | 93.54 | .478 | .122 2826 | 4336 | 64 18 07.41 | 89.44 |
| .429 | .100 5606 | 4531 | 63 03 26.91 | 93.46 | .479 | .122 7161 | 4332 | 64 19 36.81 | 89.36 |
| I.430 | I.101 0134 | 4527 | 63 05 00.33 | 93.37 | I.480 | I.123 1491 | 4328 | 64 21 06.13 | 89.28 |
| .431 | .101 4659 | 4523 | 63 06 33.66 | 93.29 | .481 | .123 5818 | 4325 | 64 22 35.37 | 89.20 |
| .432 | .101 9180 | 4519 | 63 08 06.91 | 93.21 | .482 | .124 0140 | 4321 | 64 24 04.53 | 89.12 |
| .433 | .102 3697 | 4515 | 63 09 40.08 | 93.13 | .483 | .124 4459 | 4317 | 64 25 33.61 | 89.04 |
| .434 | .102 8210 | 4511 | 63 11 13.16 | 93.04 | .484 | .124 8774 | 4313 | 64 27 02.61 | 88.96 |
| I.435 | I.103 2719 | 4507 | 63 12 46.16 | 92.96 | I.485 | I.125 3085 | 4309 | 64 28 31.53 | 88.88 |
| .436 | .103 7223 | 4503 | 63 14 19.08 | 92.88 | .486 | .125 7392 | 4305 | 64 30 00.37 | 88.80 |
| .437 | .104 1724 | 4499 | 63 15 51.91 | 92.79 | .487 | .126 1695 | 4301 | 64 31 29.13 | 88.72 |
| .438 | .104 6221 | 4495 | 63 17 24.66 | 92.71 | .488 | .126 5994 | 4297 | 64 32 57.81 | 88.64 |
| .439 | .105 0714 | 4491 | 63 18 57.33 | 92.63 | .489 | .127 0289 | 4293 | 64 34 26.41 | 88.56 |
| I.440 | I.105 5202 | 4487 | 63 20 29.92 | 92.54 | I.490 | I.127 4581 | 4290 | 64 35 54.93 | 88.48 |
| .441 | .105 9687 | 4483 | 63 22 02.42 | 92.46 | .491 | .127 8869 | 4286 | 64 37 23.37 | 88.40 |
| .442 | .106 4168 | 4479 | 63 23 34.84 | 92.38 | .492 | .128 3152 | 4282 | 64 38 51.72 | 88.32 |
| .443 | .106 8644 | 4475 | 63 25 07.18 | 92.30 | .493 | .128 7432 | 4278 | 64 40 20.00 | 88.24 |
| .444 | .107 3117 | 4471 | 63 26 39.44 | 92.21 | .494 | .129 1708 | 4274 | 64 41 48.20 | 88.16 |
| I.445 | I.107 7586 | 4467 | 63 28 11.61 | 92.13 | I.495 | I.129 5980 | 4270 | 64 43 16.32 | 88.08 |
| .446 | .108 2050 | 4463 | 63 29 43.70 | 92.05 | .496 | .130 0249 | 4266 | 64 44 44.36 | 88.00 |
| .447 | .108 6511 | 4459 | 63 31 15.71 | 91.97 | .497 | .130 4513 | 4263 | 64 46 12.32 | 87.92 |
| .448 | .109 0968 | 4455 | 63 32 47.63 | 91.88 | .498 | .130 8774 | 4259 | 64 47 40.20 | 87.84 |
| .449 | .109 5421 | 4451 | 63 34 19.48 | 91.80 | .499 | .131 3031 | 4255 | 64 49 08.01 | 87.76 |
| I.450 | I.109 9869 | 4447 | 63 35 51.24 | 91.72 | I.500 | I.131 7283 | 4251 | 64 50 35.73 | 87.68 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|--------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|--------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I. 500 | I. 131 7283 | 4251 | 64 50 35.73 | 87.68 | I. 550 | I. 152 5078 | 4062 | 66 02 01.81 | 83.78 |
| .501 | .132 1532 | 4247 | 64 52 03.37 | 87.60 | .551 | .152 9139 | 4058 | 66 03 25.55 | 83.71 |
| .502 | .132 5778 | 4243 | 64 53 30.93 | 87.52 | .552 | .153 3195 | 4055 | 66 04 49.22 | 83.63 |
| .503 | .133 0019 | 4239 | 64 54 58.42 | 87.44 | .553 | .153 7248 | 4051 | 66 06 12.81 | 83.55 |
| .504 | .133 4257 | 4236 | 64 56 25.82 | 87.37 | .554 | .154 1297 | 4047 | 66 07 36.33 | 83.48 |
| I. 505 | I. 133 8490 | 4232 | 64 57 53.15 | 87.29 | I. 555 | I. 154 5342 | 4043 | 66 08 59.77 | 83.40 |
| .506 | .134 2720 | 4228 | 64 59 20.40 | 87.21 | .556 | .154 9384 | 4040 | 66 10 23.14 | 83.33 |
| .507 | .134 6946 | 4224 | 65 00 47.56 | 87.13 | .557 | .155 3421 | 4036 | 66 11 46.42 | 83.25 |
| .508 | .135 1168 | 4220 | 65 02 14.65 | 87.05 | .558 | .155 7456 | 4032 | 66 13 09.63 | 83.17 |
| .509 | .135 5387 | 4216 | 65 03 41.66 | 86.97 | .559 | .156 1486 | 4029 | 66 14 32.77 | 83.10 |
| I. 510 | I. 135 9601 | 4213 | 65 05 08.59 | 86.89 | I. 560 | I. 156 5513 | 4025 | 66 15 55.83 | 83.02 |
| .511 | .136 3812 | 4209 | 65 06 35.44 | 86.81 | .561 | .156 9536 | 4021 | 66 17 18.81 | 82.95 |
| .512 | .136 8019 | 4205 | 65 08 02.22 | 86.73 | .562 | .157 3556 | 4018 | 66 18 41.72 | 82.87 |
| .513 | .137 2222 | 4201 | 65 09 28.91 | 86.66 | .563 | .157 7571 | 4014 | 66 20 04.55 | 82.79 |
| .514 | .137 6421 | 4197 | 65 10 55.53 | 86.58 | .564 | .158 1583 | 4010 | 66 21 27.31 | 82.72 |
| I. 515 | I. 138 0617 | 4194 | 65 12 22.07 | 86.50 | I. 565 | I. 158 5592 | 4007 | 66 22 49.99 | 82.64 |
| .516 | .138 4808 | 4190 | 65 13 48.52 | 86.42 | .566 | .158 9597 | 4003 | 66 24 12.59 | 82.57 |
| .517 | .138 8996 | 4186 | 65 15 14.91 | 86.34 | .567 | .159 3598 | 3999 | 66 25 35.12 | 82.49 |
| .518 | .139 3180 | 4182 | 65 16 41.21 | 86.26 | .568 | .159 7595 | 3996 | 66 26 57.57 | 82.42 |
| .519 | .139 7360 | 4178 | 65 18 07.43 | 86.18 | .569 | .160 1589 | 3992 | 66 28 19.95 | 82.34 |
| I. 520 | I. 140 1537 | 4175 | 65 19 33.88 | 86.11 | I. 570 | I. 160 5579 | 3988 | 66 29 42.25 | 82.26 |
| .521 | .140 5709 | 4171 | 65 20 59.64 | 86.03 | .571 | .160 9566 | 3985 | 66 31 04.48 | 82.19 |
| .522 | .140 9878 | 4167 | 65 22 25.63 | 85.95 | .572 | .161 3548 | 3981 | 66 32 26.63 | 82.11 |
| .523 | .141 4043 | 4163 | 65 23 51.54 | 85.87 | .573 | .161 7527 | 3977 | 66 33 48.71 | 82.04 |
| .524 | .141 8205 | 4159 | 65 25 17.38 | 85.79 | .574 | .162 1503 | 3974 | 66 35 10.71 | 81.96 |
| I. 525 | I. 142 2362 | 4156 | 65 26 43.13 | 85.72 | I. 575 | I. 162 5475 | 3970 | 66 36 32.63 | 81.89 |
| .526 | .142 6516 | 4152 | 65 28 08.81 | 85.64 | .576 | .162 9443 | 3966 | 66 37 54.48 | 81.81 |
| .527 | .143 0666 | 4148 | 65 29 34.41 | 85.56 | .577 | .163 3408 | 3963 | 66 39 16.26 | 81.74 |
| .528 | .143 4812 | 4144 | 65 30 59.93 | 85.48 | .578 | .163 7369 | 3959 | 66 40 37.96 | 81.66 |
| .529 | .143 8954 | 4141 | 65 32 25.37 | 85.40 | .579 | .164 1326 | 3955 | 66 41 59.58 | 81.59 |
| I. 530 | I. 144 3093 | 4137 | 65 33 50.74 | 85.33 | I. 580 | I. 164 5279 | 3952 | 66 43 21.13 | 81.51 |
| .531 | .144 7228 | 4133 | 65 35 16.02 | 85.25 | .581 | .164 9230 | 3948 | 66 44 42.61 | 81.44 |
| .532 | .145 1359 | 4129 | 65 36 41.23 | 85.17 | .582 | .165 3176 | 3945 | 66 46 04.01 | 81.36 |
| .533 | .145 5486 | 4125 | 65 38 06.37 | 85.09 | .583 | .165 7119 | 3941 | 66 47 25.33 | 81.29 |
| .534 | .145 9610 | 4122 | 65 39 31.42 | 85.02 | .584 | .166 1058 | 3937 | 66 48 46.58 | 81.21 |
| I. 535 | I. 146 3730 | 4118 | 65 40 56.40 | 84.94 | I. 585 | I. 166 4993 | 3934 | 66 50 07.76 | 81.14 |
| .536 | .146 7846 | 4114 | 65 42 21.30 | 84.86 | .586 | .166 8925 | 3930 | 66 51 28.86 | 81.06 |
| .537 | .147 1958 | 4110 | 65 43 46.12 | 84.78 | .587 | .167 2854 | 3926 | 66 52 49.89 | 80.99 |
| .538 | .147 6067 | 4107 | 65 45 10.87 | 84.71 | .588 | .167 6778 | 3923 | 66 54 10.84 | 80.92 |
| .539 | .148 0172 | 4103 | 65 46 35.54 | 84.63 | .589 | .168 0699 | 3919 | 66 55 31.72 | 80.84 |
| I. 540 | I. 148 4273 | 4099 | 65 48 00.13 | 84.55 | I. 590 | I. 168 4617 | 3916 | 66 56 52.52 | 80.77 |
| .541 | .148 8370 | 4095 | 65 49 24.64 | 84.48 | .591 | .168 8531 | 3912 | 66 58 13.25 | 80.69 |
| .542 | .149 2464 | 4092 | 65 50 49.08 | 84.40 | .592 | .169 2441 | 3908 | 66 59 33.91 | 80.62 |
| .543 | .149 6554 | 4088 | 65 52 13.44 | 84.32 | .593 | .169 6348 | 3905 | 67 00 54.49 | 80.54 |
| .544 | .150 0640 | 4084 | 65 53 37.72 | 84.25 | .594 | .170 0251 | 3901 | 67 02 15.00 | 80.47 |
| I. 545 | I. 150 4722 | 4081 | 65 55 01.93 | 84.17 | I. 595 | I. 170 4150 | 3898 | 67 03 35.43 | 80.40 |
| .546 | .150 8801 | 4077 | 65 56 26.06 | 84.09 | .596 | .170 8046 | 3894 | 67 04 55.79 | 80.32 |
| .547 | .151 2876 | 4073 | 65 57 50.11 | 84.01 | .597 | .171 1938 | 3891 | 67 06 16.07 | 80.25 |
| .548 | .151 6947 | 4069 | 65 59 14.08 | 83.94 | .598 | .171 5827 | 3887 | 67 07 36.28 | 80.17 |
| .549 | .152 1015 | 4066 | 66 00 37.98 | 83.86 | .599 | .171 9712 | 3883 | 67 08 56.42 | 80.10 |
| I. 550 | I. 152 5078 | 4062 | 66 02 01.81 | 83.78 | I. 600 | I. 172 3594 | 3880 | 67 10 16.48 | 80.03 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I.600 | I.172 3594 | 3880 | 67 10' 16".48 | 80.03 | I.650 | I.191 3170 | 3704 | 68 15' 26".76 | 76.41 |
| .601 | .172 7472 | 3876 | 67 11 36.47 | 79.95 | .651 | .191 6872 | 3701 | 68 16 43.13 | 76.34 |
| .602 | .173 1346 | 3873 | 67 12 56.39 | 79.88 | .652 | .192 0571 | 3697 | 68 17 59.44 | 76.27 |
| .603 | .173 5217 | 3869 | 67 14 16.23 | 79.81 | .653 | .192 4267 | 3694 | 68 19 15.67 | 76.20 |
| .604 | .173 9084 | 3865 | 67 15 36.00 | 79.73 | .654 | .192 7960 | 3691 | 68 20 31.83 | 76.12 |
| I.605 | I.174 2948 | 3862 | 67 16 55.69 | 79.66 | I.655 | I.193 1648 | 3687 | 68 21 47.92 | 76.05 |
| .606 | .174 6808 | 3858 | 67 18 15.31 | 79.58 | .656 | .193 5334 | 3684 | 68 23 03.93 | 75.98 |
| .607 | .175 0665 | 3855 | 67 19 34.86 | 79.51 | .657 | .193 9016 | 3680 | 68 24 19.88 | 75.91 |
| .608 | .175 4518 | 3851 | 67 20 54.34 | 79.44 | .658 | .194 2695 | 3677 | 68 25 35.76 | 75.84 |
| .609 | .175 8367 | 3848 | 67 22 13.74 | 79.36 | .659 | .194 6370 | 3674 | 68 26 51.57 | 75.77 |
| I.610 | I.176 2213 | 3844 | 67 23 33.07 | 79.29 | I.660 | I.195 0042 | 3670 | 68 28 07.30 | 75.70 |
| .611 | .176 6056 | 3841 | 67 24 52.32 | 79.22 | .661 | .195 3710 | 3667 | 68 29 22.97 | 75.63 |
| .612 | .176 9895 | 3837 | 67 26 11.50 | 79.15 | .662 | .195 7375 | 3663 | 68 30 38.56 | 75.56 |
| .613 | .177 3730 | 3834 | 67 27 30.61 | 79.07 | .663 | .196 1037 | 3660 | 68 31 54.09 | 75.49 |
| .614 | .177 7562 | 3830 | 67 28 49.65 | 79.00 | .664 | .196 4695 | 3656 | 68 33 09.54 | 75.43 |
| I.615 | I.178 1390 | 3826 | 67 30 08.61 | 78.93 | I.665 | I.196 8349 | 3653 | 68 34 24.93 | 75.36 |
| .616 | .178 5215 | 3823 | 67 31 27.50 | 78.85 | .666 | .197 2001 | 3650 | 68 35 40.24 | 75.29 |
| .617 | .178 9036 | 3819 | 67 32 46.32 | 78.78 | .667 | .197 5649 | 3646 | 68 36 55.49 | 75.22 |
| .618 | .179 2853 | 3816 | 67 34 05.06 | 78.71 | .668 | .197 9293 | 3643 | 68 38 10.66 | 75.15 |
| .619 | .179 6667 | 3812 | 67 35 23.73 | 78.63 | .669 | .198 2935 | 3639 | 68 39 25.77 | 75.08 |
| I.620 | I.180 0478 | 3809 | 67 36 42.33 | 78.56 | I.670 | I.198 6572 | 3636 | 68 40 40.80 | 75.01 |
| .621 | .180 4285 | 3805 | 67 38 00.86 | 78.49 | .671 | .199 0207 | 3633 | 68 41 55.77 | 74.94 |
| .622 | .180 8089 | 3802 | 67 39 19.31 | 78.42 | .672 | .199 3838 | 3629 | 68 43 10.66 | 74.87 |
| .623 | .181 1889 | 3798 | 67 40 37.69 | 78.34 | .673 | .199 7465 | 3626 | 68 44 25.49 | 74.80 |
| .624 | .181 5685 | 3795 | 67 41 56.00 | 78.27 | .674 | .200 1090 | 3623 | 68 45 40.24 | 74.72 |
| I.625 | I.181 9478 | 3791 | 67 43 14.24 | 78.20 | I.675 | I.200 4711 | 3619 | 68 46 54.93 | 74.65 |
| .626 | .182 3268 | 3788 | 67 44 32.40 | 78.13 | .676 | .200 8328 | 3616 | 68 48 09.55 | 74.58 |
| .627 | .182 7054 | 3784 | 67 45 50.59 | 78.06 | .677 | .201 1942 | 3612 | 68 49 24.09 | 74.51 |
| .628 | .183 0836 | 3781 | 67 47 08.51 | 77.98 | .678 | .201 5553 | 3609 | 68 50 38.57 | 74.44 |
| .629 | .183 4615 | 3777 | 67 48 26.46 | 77.91 | .679 | .201 9160 | 3606 | 68 51 52.98 | 74.37 |
| I.630 | I.183 8390 | 3774 | 67 49 44.33 | 77.84 | I.680 | I.202 2764 | 3602 | 68 53 07.32 | 74.30 |
| .631 | .184 2162 | 3770 | 67 51 02.13 | 77.77 | .681 | .202 6365 | 3599 | 68 54 21.58 | 74.23 |
| .632 | .184 5931 | 3767 | 67 52 19.86 | 77.69 | .682 | .202 9962 | 3596 | 68 55 35.78 | 74.17 |
| .633 | .184 9696 | 3763 | 67 53 37.52 | 77.62 | .683 | .203 3556 | 3592 | 68 56 49.92 | 74.10 |
| .634 | .185 3457 | 3760 | 67 54 55.11 | 77.55 | .684 | .203 7147 | 3589 | 68 58 03.98 | 74.03 |
| I.635 | I.185 7215 | 3756 | 67 56 12.62 | 77.48 | I.685 | I.204 0734 | 3586 | 68 59 17.97 | 73.96 |
| .636 | .186 0970 | 3753 | 67 57 30.07 | 77.41 | .686 | .204 4318 | 3582 | 69 00 31.89 | 73.89 |
| .637 | .186 4721 | 3749 | 67 58 47.44 | 77.34 | .687 | .204 7899 | 3579 | 69 01 45.75 | 73.82 |
| .638 | .186 8469 | 3746 | 68 00 04.74 | 77.26 | .688 | .205 1476 | 3576 | 69 02 59.53 | 73.75 |
| .639 | .187 2213 | 3742 | 68 01 21.97 | 77.19 | .689 | .205 5050 | 3572 | 69 04 13.25 | 73.68 |
| I.640 | I.187 5953 | 3739 | 68 02 39.12 | 77.12 | I.690 | I.205 8620 | 3569 | 69 05 26.90 | 73.61 |
| .641 | .187 9691 | 3735 | 68 03 56.21 | 77.05 | .691 | .206 2187 | 3566 | 69 06 40.48 | 73.54 |
| .642 | .188 3424 | 3732 | 68 05 13.22 | 76.98 | .692 | .206 5751 | 3562 | 69 07 53.99 | 73.48 |
| .643 | .188 7155 | 3729 | 68 06 30.16 | 76.91 | .693 | .206 9312 | 3559 | 69 09 07.43 | 73.41 |
| .644 | .189 0881 | 3725 | 68 07 47.03 | 76.83 | .694 | .207 2869 | 3556 | 69 10 20.80 | 73.34 |
| I.645 | I.189 4605 | 3722 | 68 09 03.83 | 76.76 | I.695 | I.207 6423 | 3552 | 69 11 34.11 | 73.27 |
| .646 | .189 8325 | 3718 | 68 10 20.50 | 76.69 | .696 | .207 9974 | 3549 | 69 12 47.34 | 73.20 |
| .647 | .190 2041 | 3715 | 68 11 37.22 | 76.62 | .697 | .208 3521 | 3546 | 69 14 00.51 | 73.13 |
| .648 | .190 5754 | 3711 | 68 12 53.80 | 76.55 | .698 | .208 7065 | 3542 | 69 15 13.61 | 73.07 |
| .649 | .190 9403 | 3708 | 68 14 10.32 | 76.48 | .699 | .209 0605 | 3539 | 69 16 26.64 | 73.00 |
| I.650 | I.191 3170 | 3704 | 68 15 26.76 | 76.41 | I.700 | I.209 4143 | 3536 | 69 17 39.60 | 72.93 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I.700 | I.209 4143 | 3536 | 69 17 39.60 | 72.93 | I.750 | I.226 6847 | 3374 | 70 17 01.89 | 69.59 |
| .701 | .209 7677 | 3532 | 69 18 52.50 | 72.86 | .751 | .227 0219 | 3370 | 70 18 11.44 | 69.52 |
| .702 | .210 1208 | 3529 | 69 20 05.32 | 72.79 | .752 | .227 3588 | 3367 | 70 19 20.93 | 69.45 |
| .703 | .210 4735 | 3526 | 69 21 18.08 | 72.72 | .753 | .227 6954 | 3364 | 70 20 30.35 | 69.39 |
| .704 | .210 8259 | 3522 | 69 22 30.77 | 72.66 | .754 | .228 0316 | 2361 | 70 21 39.71 | 69.32 |
| I.705 | I.211 1780 | 3519 | 69 23 43.39 | 72.59 | I.755 | I.228 3676 | 3358 | 70 22 49.00 | 69.26 |
| .706 | .211 5297 | 3516 | 69 24 55.95 | 72.52 | .756 | .228 7032 | 3355 | 70 23 58.23 | 69.19 |
| .707 | .211 8812 | 3513 | 69 26 08.43 | 72.45 | .757 | .229 0385 | 3351 | 70 25 07.39 | 69.13 |
| .708 | .212 2323 | 3509 | 69 27 20.85 | 72.38 | .758 | .229 3735 | 3348 | 70 26 16.48 | 69.06 |
| .709 | .212 5830 | 3506 | 69 28 33.20 | 72.32 | .759 | .229 7082 | 3345 | 70 27 25.51 | 69.00 |
| I.710 | I.212 9335 | 3503 | 69 29 45.49 | 72.25 | I.760 | I.230 0425 | 3342 | 70 28 34.48 | 68.93 |
| .711 | .213 2836 | 3499 | 69 30 57.70 | 72.18 | .761 | .230 3765 | 3339 | 70 29 43.38 | 68.87 |
| .712 | .213 6334 | 3496 | 69 32 09.85 | 72.11 | .762 | .230 7103 | 3336 | 70 30 52.22 | 68.80 |
| .713 | .213 9828 | 3493 | 69 33 21.93 | 72.05 | .763 | .231 0437 | 3333 | 70 32 00.99 | 68.74 |
| .714 | .214 3319 | 3490 | 69 34 33.94 | 71.98 | .764 | .231 3768 | 3329 | 70 33 09.69 | 68.67 |
| I.715 | I.214 6807 | 3486 | 69 35 45.89 | 71.91 | I.765 | I.231 7096 | 3326 | 70 34 18.33 | 68.61 |
| .716 | .215 0292 | 3483 | 69 36 57.76 | 71.84 | .766 | .232 0420 | 3323 | 70 35 26.91 | 68.54 |
| .717 | .215 3774 | 3480 | 69 38 09.57 | 71.78 | .767 | .232 3742 | 3320 | 70 36 35.42 | 68.48 |
| .718 | .215 7252 | 3477 | 69 39 21.32 | 71.71 | .768 | .232 7060 | 3317 | 70 37 43.87 | 68.42 |
| .719 | .216 0727 | 3473 | 69 40 32.99 | 71.64 | .769 | .233 0376 | 3314 | 70 38 52.25 | 68.35 |
| I.720 | I.216 4198 | 3470 | 69 41 44.60 | 71.58 | I.770 | I.233 3688 | 3311 | 70 40 00.57 | 68.29 |
| .721 | .216 7667 | 3467 | 69 42 56.14 | 71.51 | .771 | .233 6997 | 3307 | 70 41 08.83 | 68.22 |
| .722 | .217 1132 | 3464 | 69 44 07.62 | 71.44 | .772 | .234 0303 | 3304 | 70 42 17.02 | 68.16 |
| .723 | .217 4594 | 3460 | 69 45 19.02 | 71.37 | .773 | .234 3606 | 3301 | 70 43 25.14 | 68.09 |
| .724 | .217 8053 | 3457 | 69 46 30.37 | 71.31 | .774 | .234 6905 | 3298 | 70 44 33.20 | 68.03 |
| I.725 | I.218 1508 | 3454 | 69 47 41.64 | 71.23 | I.775 | I.235 0202 | 3295 | 70 45 41.20 | 67.96 |
| .726 | .218 4966 | 3451 | 69 48 52.85 | 71.16 | .776 | .235 3495 | 3292 | 70 46 49.13 | 67.90 |
| .727 | .218 8409 | 3447 | 69 50 03.99 | 71.10 | .777 | .235 6786 | 3289 | 70 47 57.00 | 67.84 |
| .728 | .219 1855 | 3444 | 69 51 15.06 | 71.03 | .778 | .236 0073 | 3286 | 70 49 04.80 | 67.77 |
| .729 | .219 5297 | 3441 | 69 52 26.06 | 70.96 | .779 | .236 3357 | 3283 | 70 50 12.54 | 67.71 |
| I.730 | I.219 8737 | 3438 | 69 53 37.90 | 70.90 | I.780 | I.236 6638 | 3279 | 70 51 20.22 | 67.64 |
| .731 | .220 2173 | 3434 | 69 54 47.88 | 70.83 | .781 | .236 9916 | 3276 | 70 52 27.83 | 67.58 |
| .732 | .220 5605 | 3431 | 69 55 58.68 | 70.76 | .782 | .237 3191 | 3273 | 70 53 35.38 | 67.52 |
| .733 | .220 9035 | 3428 | 69 57 09.42 | 70.70 | .783 | .237 6463 | 3270 | 70 54 42.87 | 67.45 |
| .734 | .221 2461 | 3425 | 69 58 20.10 | 70.63 | .784 | .237 9731 | 3267 | 70 55 50.29 | 67.39 |
| I.735 | I.221 5885 | 3422 | 69 59 30.71 | 70.56 | I.785 | I.238 2997 | 3264 | 70 56 57.65 | 67.33 |
| .736 | .221 9304 | 3418 | 70 00 41.25 | 70.50 | .786 | .238 6259 | 3261 | 70 58 04.94 | 67.26 |
| .737 | .222 2721 | 3415 | 70 01 51.72 | 70.43 | .787 | .238 9519 | 3258 | 70 59 12.17 | 67.20 |
| .738 | .222 6135 | 3412 | 70 03 02.13 | 70.37 | .788 | .239 2775 | 3255 | 71 00 19.34 | 67.13 |
| .739 | .222 9545 | 3409 | 70 04 12.47 | 70.30 | .789 | .239 6028 | 3252 | 71 01 26.44 | 67.07 |
| I.740 | I.223 2952 | 3405 | 70 05 22.75 | 70.23 | I.790 | I.239 9279 | 3249 | 71 02 33.48 | 67.01 |
| .741 | .223 6356 | 3402 | 70 06 32.96 | 70.18 | .791 | .240 2526 | 3246 | 71 03 40.46 | 66.94 |
| .742 | .223 9757 | 3399 | 70 07 43.10 | 70.11 | .792 | .240 5770 | 3243 | 71 04 47.37 | 66.88 |
| .743 | .224 3154 | 3396 | 70 08 53.18 | 70.05 | .793 | .240 9011 | 3239 | 71 05 54.22 | 66.82 |
| .744 | .224 6548 | 3393 | 70 10 03.19 | 69.98 | .794 | .241 2249 | 3236 | 71 07 01.01 | 66.76 |
| I.745 | I.224 9940 | 3390 | 70 11 13.14 | 69.91 | I.795 | I.241 5483 | 3233 | 71 08 07.73 | 66.69 |
| .746 | .225 3328 | 3386 | 70 12 23.02 | 69.85 | .796 | .241 8715 | 3230 | 71 09 14.39 | 66.63 |
| .747 | .225 6712 | 3383 | 70 13 32.84 | 69.78 | .797 | .242 1944 | 3227 | 71 10 20.99 | 66.57 |
| .748 | .226 0094 | 3380 | 70 14 42.59 | 69.72 | .798 | .242 5170 | 3224 | 71 11 27.52 | 66.50 |
| .749 | .226 3472 | 3377 | 70 15 52.27 | 69.65 | .799 | .242 8392 | 3221 | 71 12 33.99 | 66.44 |
| I.750 | I.226 6847 | 3374 | 70 17 01.89 | 69.59 | I.800 | I.243 1612 | 3218 | 71 13 40.40 | 66.38 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 1.800 | 1.243 1612 | 3218 | 71 13 40.40 | 66.38 | 1.850 | 1.258 8759 | 3069 | 72 07 41.78 | 63.30 |
| .801 | .243 4828 | 3215 | 71 14 46.75 | 66.31 | .851 | .219 1826 | 3066 | 72 08 45.05 | 63.24 |
| .802 | .243 8042 | 3212 | 71 15 53.03 | 66.25 | .852 | .259 4890 | 3063 | 72 09 48.26 | 63.18 |
| .803 | .244 1252 | 3209 | 71 16 59.25 | 66.19 | .853 | .259 7952 | 3060 | 72 10 51.41 | 63.12 |
| .804 | .244 4460 | 3206 | 71 18 05.41 | 66.13 | .854 | .260 1011 | 3057 | 72 11 54.50 | 63.06 |
| 1.805 | 1.244 7664 | 3203 | 71 19 11.50 | 66.06 | 1.855 | 1.260 4066 | 3054 | 72 12 57.53 | 63.00 |
| .806 | .245 0865 | 3200 | 71 20 17.53 | 66.00 | .856 | .260 7119 | 3051 | 72 14 00.50 | 62.94 |
| .807 | .245 4064 | 3197 | 71 21 23.50 | 65.94 | .857 | .261 0169 | 3048 | 72 15 03.41 | 62.88 |
| .808 | .245 7259 | 3194 | 71 22 29.41 | 65.88 | .858 | .261 3216 | 3046 | 72 16 06.26 | 62.82 |
| .809 | .246 0451 | 3191 | 71 23 35.26 | 65.81 | .859 | .261 6260 | 3043 | 72 17 09.05 | 62.76 |
| 1.810 | 1.246 3640 | 3188 | 71 24 41.04 | 65.75 | 1.860 | 1.261 9302 | 3040 | 72 18 11.78 | 62.70 |
| .811 | .246 6827 | 3185 | 71 25 46.76 | 65.69 | .861 | .262 2340 | 3037 | 72 19 14.45 | 62.64 |
| .812 | .247 0010 | 3182 | 71 26 52.42 | 65.63 | .862 | .262 5375 | 3034 | 72 20 17.06 | 62.58 |
| .813 | .247 3190 | 3179 | 71 27 58.01 | 65.56 | .863 | .262 8408 | 3031 | 72 21 19.61 | 62.52 |
| .814 | .247 6367 | 3176 | 71 29 03.54 | 65.50 | .864 | .263 1438 | 3028 | 72 22 22.10 | 62.46 |
| 1.815 | 1.247 9541 | 3173 | 71 30 09.02 | 65.44 | 1.865 | 1.263 4464 | 3025 | 72 23 24.54 | 62.40 |
| .816 | .248 2712 | 3170 | 71 31 14.42 | 65.38 | .866 | .263 7488 | 3022 | 72 24 26.91 | 62.34 |
| .817 | .248 5880 | 3167 | 71 32 19.77 | 65.32 | .867 | .264 0509 | 3020 | 72 25 29.22 | 62.28 |
| .818 | .248 9046 | 3164 | 71 33 25.06 | 65.25 | .868 | .264 3527 | 3017 | 72 26 31.47 | 62.22 |
| .819 | .249 2208 | 3161 | 71 34 30.28 | 65.19 | .869 | .264 6543 | 3014 | 72 27 33.67 | 62.16 |
| 1.820 | 1.249 5367 | 3158 | 71 35 35.44 | 65.13 | 1.870 | 1.264 9555 | 3011 | 72 28 35.80 | 62.11 |
| .821 | .249 8523 | 3155 | 71 36 40.54 | 65.07 | .871 | .265 2565 | 3008 | 72 29 37.88 | 62.05 |
| .822 | .250 1676 | 3152 | 71 37 45.58 | 65.01 | .872 | .265 5571 | 3005 | 72 30 39.90 | 61.99 |
| .823 | .250 4826 | 3149 | 71 38 50.56 | 64.95 | .873 | .265 8575 | 3002 | 72 31 41.85 | 61.93 |
| .824 | .250 7973 | 3146 | 71 39 55.47 | 64.88 | .874 | .266 1576 | 2999 | 72 32 43.75 | 61.87 |
| 1.825 | 1.251 1118 | 3143 | 71 41 00.32 | 64.82 | 1.875 | 1.266 4574 | 2997 | 72 33 45.59 | 61.81 |
| .826 | .251 4259 | 3140 | 71 42 05.11 | 64.76 | .876 | .266 7569 | 2994 | 72 34 47.37 | 61.75 |
| .827 | .251 7397 | 3137 | 71 43 09.84 | 64.70 | .877 | .267 0562 | 2991 | 72 35 49.09 | 61.69 |
| .828 | .252 0532 | 3134 | 71 44 14.51 | 64.64 | .878 | .267 3551 | 2988 | 72 36 50.75 | 61.63 |
| .829 | .252 3664 | 3131 | 71 45 19.12 | 64.58 | .879 | .267 6538 | 2985 | 72 37 52.36 | 61.57 |
| 1.830 | 1.252 6794 | 3128 | 71 46 23.67 | 64.52 | 1.880 | 1.267 9521 | 2982 | 72 38 53.90 | 61.52 |
| .831 | .252 9920 | 3125 | 71 47 28.15 | 64.45 | .881 | .268 2502 | 2980 | 72 39 55.39 | 61.46 |
| .832 | .253 3043 | 3122 | 71 48 32.57 | 64.39 | .882 | .268 5480 | 2977 | 72 40 56.82 | 61.40 |
| .833 | .253 6164 | 3119 | 71 49 36.94 | 64.33 | .883 | .268 8456 | 2974 | 72 41 58.19 | 61.34 |
| .834 | .253 9281 | 3116 | 71 50 41.24 | 64.27 | .884 | .269 1428 | 2971 | 72 42 59.50 | 61.28 |
| 1.835 | 1.254 2396 | 3113 | 71 51 45.48 | 64.21 | 1.885 | 1.269 4398 | 2968 | 72 44 00.75 | 61.22 |
| .836 | .254 5507 | 3110 | 71 52 49.66 | 64.15 | .886 | .269 7364 | 2965 | 72 45 01.94 | 61.16 |
| .837 | .254 8616 | 3107 | 71 53 53.77 | 64.09 | .887 | .270 0328 | 2962 | 72 46 03.08 | 61.11 |
| .838 | .255 1721 | 3104 | 71 54 57.83 | 64.03 | .888 | .270 3289 | 2960 | 72 47 04.15 | 61.05 |
| .839 | .255 4824 | 3101 | 71 56 01.83 | 63.97 | .889 | .270 6248 | 2957 | 72 48 05.17 | 60.99 |
| 1.840 | 1.255 7923 | 3098 | 71 57 05.76 | 63.91 | 1.890 | 1.270 9203 | 2954 | 72 49 06.13 | 60.93 |
| .841 | .256 1020 | 3095 | 71 58 09.64 | 63.84 | .891 | .271 2156 | 2951 | 72 50 07.03 | 60.87 |
| .842 | .256 4114 | 3092 | 71 59 13.45 | 63.78 | .892 | .271 5106 | 2948 | 72 51 07.88 | 60.81 |
| .843 | .256 7205 | 3089 | 72 00 17.21 | 63.72 | .893 | .271 8053 | 2946 | 72 52 08.66 | 60.76 |
| .844 | .257 0293 | 3086 | 72 01 20.90 | 63.66 | .894 | .272 0997 | 2943 | 72 53 09.39 | 60.70 |
| 1.845 | 1.257 3378 | 3084 | 72 02 24.53 | 63.60 | 1.895 | 1.272 3938 | 2940 | 72 54 10.06 | 60.64 |
| .846 | .257 6460 | 3081 | 72 03 28.10 | 63.54 | .896 | .272 6877 | 2937 | 72 55 10.67 | 60.58 |
| .847 | .257 9539 | 3078 | 72 04 31.61 | 63.48 | .897 | .272 9812 | 2934 | 72 56 11.23 | 60.52 |
| .848 | .258 2615 | 3075 | 72 05 35.06 | 63.42 | .898 | .273 2745 | 2932 | 72 57 11.72 | 60.47 |
| .849 | .258 5688 | 3072 | 72 06 38.45 | 63.36 | .899 | .273 5675 | 2929 | 72 58 12.16 | 60.41 |
| 1.850 | 1.258 8759 | 3069 | 72 07 41.78 | 63.30 | 1.900 | 1.273 8603 | 2926 | 72 59 12.54 | 60.35 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| I.900 | I.273 8603 | 2926 | 72 59 12.54 | 60.35 | I.950 | I.288 1451 | 2789 | 73 48 19.01 | 57.53 |
| .901 | .274 1527 | 2923 | 73 00 12.86 | 60.29 | .951 | .288 4239 | 2786 | 73 49 16.51 | 57.47 |
| .902 | .274 4449 | 2920 | 73 01 13.13 | 60.24 | .952 | .288 7024 | 2784 | 73 50 13.95 | 57.42 |
| .903 | .274 7368 | 2918 | 73 02 13.33 | 60.18 | .953 | .288 9806 | 2781 | 73 51 11.34 | 57.36 |
| .904 | .275 0284 | 2915 | 73 03 13.48 | 60.12 | .954 | .289 2586 | 2778 | 73 52 08.68 | 57.31 |
| I.905 | I.275 3197 | 2912 | 73 04 13.58 | 60.06 | I.955 | I.289 5363 | 2776 | 73 53 05.96 | 57.25 |
| .906 | .275 6108 | 2909 | 73 05 13.61 | 60.01 | .956 | .289 8137 | 2773 | 73 54 03.18 | 57.20 |
| .907 | .275 9016 | 2906 | 73 06 13.59 | 59.95 | .957 | .290 0909 | 2770 | 73 55 00.35 | 57.14 |
| .908 | .276 1921 | 2904 | 73 07 13.51 | 59.89 | .958 | .290 3678 | 2768 | 73 55 57.46 | 57.09 |
| .909 | .276 4823 | 2901 | 73 08 13.37 | 59.83 | .959 | .290 6444 | 2765 | 73 56 54.52 | 57.03 |
| I.910 | I.276 7722 | 2898 | 73 09 13.18 | 59.78 | I.960 | I.290 9208 | 2762 | 73 57 51.53 | 56.98 |
| .911 | .277 0619 | 2895 | 73 10 12.92 | 59.72 | .961 | .291 1969 | 2760 | 73 58 48.48 | 56.92 |
| .912 | .277 3513 | 2893 | 73 11 12.62 | 59.66 | .962 | .291 4727 | 2757 | 73 59 45.38 | 56.87 |
| .913 | .277 6404 | 2890 | 73 12 12.25 | 59.61 | .963 | .291 7483 | 2754 | 74 00 42.22 | 56.81 |
| .914 | .277 9292 | 2887 | 73 13 11.83 | 59.55 | .964 | .292 0236 | 2752 | 74 01 39.00 | 56.76 |
| I.915 | I.278 2178 | 2884 | 73 14 11.35 | 59.49 | I.965 | I.292 2987 | 2749 | 74 02 35.73 | 56.70 |
| .916 | .278 5061 | 2881 | 73 15 10.81 | 59.43 | .966 | .292 5734 | 2746 | 74 03 32.41 | 56.65 |
| .917 | .278 7941 | 2879 | 73 16 10.22 | 59.38 | .967 | .292 8480 | 2744 | 74 04 29.03 | 56.60 |
| .918 | .279 0818 | 2876 | 73 17 09.56 | 59.32 | .968 | .293 1222 | 2741 | 74 05 25.60 | 56.54 |
| .919 | .279 3693 | 2873 | 73 18 08.86 | 59.26 | .969 | .293 3962 | 2739 | 74 06 22.12 | 56.49 |
| I.920 | I.279 6565 | 2870 | 73 19 08.09 | 59.21 | I.970 | I.293 6699 | 2736 | 74 07 18.58 | 56.43 |
| .921 | .279 9434 | 2868 | 73 20 07.27 | 59.15 | .971 | .293 9434 | 2733 | 74 08 14.98 | 56.38 |
| .922 | .280 2300 | 2865 | 73 21 06.39 | 59.09 | .972 | .294 2166 | 2731 | 74 09 11.33 | 56.32 |
| .923 | .280 5164 | 2862 | 73 22 05.46 | 59.04 | .973 | .294 4895 | 2728 | 74 10 07.63 | 56.27 |
| .924 | .280 8024 | 2859 | 73 23 04.47 | 58.98 | .974 | .294 7622 | 2725 | 74 11 03.87 | 56.22 |
| I.925 | I.281 0883 | 2857 | 73 24 03.42 | 58.92 | I.975 | I.295 0346 | 2723 | 74 12 00.06 | 56.16 |
| .926 | .281 3738 | 2854 | 73 25 02.32 | 58.87 | .976 | .295 3068 | 2720 | 74 12 56.20 | 56.11 |
| .927 | .281 6590 | 2851 | 73 26 01.16 | 58.81 | .977 | .295 5786 | 2718 | 74 13 52.28 | 56.05 |
| .928 | .281 9440 | 2849 | 73 26 59.94 | 58.76 | .978 | .295 8503 | 2715 | 74 14 48.30 | 56.00 |
| .929 | .282 2288 | 2846 | 73 27 58.67 | 58.70 | .979 | .296 1216 | 2712 | 74 15 44.28 | 55.95 |
| I.930 | I.282 5132 | 2843 | 73 28 57.34 | 58.64 | I.980 | I.296 3927 | 2710 | 74 16 40.20 | 55.89 |
| .931 | .282 7974 | 2840 | 73 29 55.95 | 58.59 | .981 | .296 6636 | 2707 | 74 17 36.06 | 55.84 |
| .932 | .283 0813 | 2838 | 73 30 54.51 | 58.53 | .982 | .296 9342 | 2705 | 74 18 31.87 | 55.78 |
| .933 | .283 3649 | 2835 | 73 31 53.01 | 58.47 | .983 | .297 2045 | 2702 | 74 19 27.63 | 55.73 |
| .934 | .283 6482 | 2832 | 73 32 51.46 | 58.42 | .984 | .297 4745 | 2699 | 74 20 23.34 | 55.68 |
| I.935 | I.283 9313 | 2829 | 73 33 49.85 | 58.36 | I.985 | I.297 7443 | 2697 | 74 21 18.99 | 55.62 |
| .936 | .284 2141 | 2827 | 73 34 48.18 | 58.31 | .986 | .298 0139 | 2694 | 74 22 14.58 | 55.57 |
| .937 | .284 4967 | 2824 | 73 35 46.46 | 58.25 | .987 | .298 2832 | 2692 | 74 23 10.13 | 55.52 |
| .938 | .284 7789 | 2821 | 73 36 44.68 | 58.19 | .988 | .298 5522 | 2689 | 74 24 05.62 | 55.46 |
| .939 | .285 0609 | 2819 | 73 37 42.85 | 58.14 | .989 | .298 8210 | 2686 | 74 25 01.05 | 55.41 |
| I.940 | I.285 3427 | 2816 | 73 38 40.96 | 58.08 | I.990 | I.299 0895 | 2684 | 74 25 56.44 | 55.36 |
| .941 | .285 6241 | 2813 | 73 39 39.01 | 58.03 | .991 | .299 3577 | 2681 | 74 26 51.77 | 55.30 |
| .942 | .285 9053 | 2811 | 73 40 37.01 | 57.97 | .992 | .299 6257 | 2679 | 74 27 47.04 | 55.25 |
| .943 | .286 1862 | 2808 | 73 41 34.95 | 57.92 | .993 | .299 8934 | 2676 | 74 28 42.27 | 55.20 |
| .944 | .286 4669 | 2805 | 73 42 32.84 | 57.86 | .994 | .300 1609 | 2673 | 74 29 37.44 | 55.14 |
| I.945 | I.286 7473 | 2802 | 73 43 30.68 | 57.80 | I.995 | I.300 4281 | 2671 | 74 30 32.55 | 55.09 |
| .946 | .287 0274 | 2800 | 73 44 28.45 | 57.75 | .996 | .300 6951 | 2668 | 74 31 27.62 | 55.04 |
| .947 | .287 3072 | 2797 | 73 45 26.17 | 57.69 | .997 | .300 9618 | 2666 | 74 32 22.63 | 54.98 |
| .948 | .287 5868 | 2794 | 73 46 23.84 | 57.64 | .998 | .301 2282 | 2663 | 74 33 17.59 | 54.93 |
| .949 | .287 8661 | 2792 | 73 47 21.45 | 57.58 | .999 | .301 4944 | 2661 | 74 34 12.49 | 54.88 |
| I.950 | I.288 1451 | 2789 | 73 48 19.01 | 57.53 | 2.000 | I.301 7603 | 2658 | 74 35 07.34 | 54.83 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.000 | 1.301 7603 | 2658 | 74 35 07.34 | 54.83 | 2.050 | 1.314 7349 | 2533 | 75 19 43.53 | 52.24 |
| .001 | .302 0260 | 2655 | 74 36 02.14 | 54.77 | .051 | .314 9880 | 2530 | 75 20 35.75 | 52.19 |
| .002 | .302 2914 | 2653 | 74 36 56.89 | 54.72 | .052 | .315 2409 | 2528 | 75 21 27.91 | 52.14 |
| .003 | .302 5566 | 2650 | 74 37 51.58 | 54.67 | .053 | .315 4936 | 2525 | 75 22 20.03 | 52.09 |
| .004 | .302 8215 | 2648 | 74 38 46.22 | 54.61 | .054 | .315 7460 | 2523 | 75 23 12.09 | 52.04 |
| 2.005 | 1.303 0861 | 2645 | 74 39 40.81 | 54.56 | 2.055 | 1.315 9982 | 2520 | 75 24 04.11 | 51.99 |
| .006 | .303 3505 | 2643 | 74 40 35.35 | 54.51 | .056 | .316 2501 | 2518 | 75 24 56.07 | 51.94 |
| .007 | .303 6147 | 2640 | 74 41 29.83 | 54.46 | .057 | .316 5018 | 2516 | 75 25 47.98 | 51.89 |
| .008 | .303 8786 | 2638 | 74 42 24.26 | 54.40 | .058 | .316 7532 | 2513 | 75 26 39.85 | 51.84 |
| .009 | .304 1422 | 2635 | 74 43 18.64 | 54.35 | .059 | .317 0044 | 2511 | 75 27 31.66 | 51.79 |
| 2.010 | 1.304 4056 | 2633 | 74 44 12.97 | 54.30 | 2.060 | 1.317 2554 | 2508 | 75 28 23.42 | 51.74 |
| .011 | .304 6687 | 2630 | 74 45 07.24 | 54.25 | .061 | .317 5061 | 2506 | 75 29 15.14 | 51.69 |
| .012 | .304 9316 | 2627 | 74 46 01.46 | 54.19 | .062 | .317 7566 | 2503 | 75 30 06.80 | 51.64 |
| .013 | .305 1942 | 2625 | 74 46 55.63 | 54.14 | .063 | .318 0068 | 2501 | 75 30 58.41 | 51.59 |
| .014 | .305 4566 | 2622 | 74 47 49.74 | 54.09 | .064 | .318 2568 | 2499 | 75 31 49.98 | 51.54 |
| 2.015 | 1.305 7187 | 2620 | 74 48 43.81 | 54.04 | 2.065 | 1.318 5065 | 2496 | 75 32 41.49 | 51.49 |
| .016 | .305 9805 | 2617 | 74 49 37.82 | 53.99 | .066 | .318 7560 | 2494 | 75 33 32.95 | 51.44 |
| .017 | .306 2421 | 2615 | 74 50 31.78 | 53.93 | .067 | .319 0053 | 2491 | 75 34 24.37 | 51.39 |
| .018 | .306 5035 | 2612 | 74 51 25.69 | 53.88 | .068 | .319 2543 | 2489 | 75 35 15.73 | 51.34 |
| .019 | .306 7646 | 2610 | 74 52 19.54 | 53.83 | .069 | .319 5031 | 2487 | 75 36 07.04 | 51.29 |
| 2.020 | 1.307 0254 | 2607 | 74 53 13.35 | 53.78 | 2.070 | 1.319 7516 | 2484 | 75 36 58.31 | 51.24 |
| .021 | .307 2860 | 2605 | 74 54 07.10 | 53.73 | .071 | .319 9999 | 2482 | 75 37 49.52 | 51.19 |
| .022 | .307 5464 | 2602 | 74 55 00.80 | 53.67 | .072 | .320 2480 | 2479 | 75 38 40.69 | 51.14 |
| .023 | .307 8065 | 2600 | 74 55 54.45 | 53.62 | .073 | .320 4958 | 2477 | 75 39 31.80 | 51.09 |
| .024 | .308 0663 | 2597 | 74 56 48.05 | 53.57 | .074 | .320 7433 | 2475 | 75 40 22.87 | 51.04 |
| 2.025 | 1.308 3259 | 2595 | 74 57 41.59 | 53.52 | 2.075 | 1.320 9907 | 2472 | 75 41 13.89 | 50.99 |
| .026 | .308 5853 | 2592 | 74 58 35.08 | 53.47 | .076 | .321 2378 | 2470 | 75 42 04.85 | 50.94 |
| .027 | .308 8443 | 2590 | 74 59 28.52 | 53.42 | .077 | .321 4846 | 2467 | 75 42 55.77 | 50.89 |
| .028 | .309 1032 | 2587 | 75 00 21.91 | 53.36 | .078 | .321 7312 | 2465 | 75 43 46.64 | 50.84 |
| .029 | .309 3618 | 2585 | 75 01 15.25 | 53.31 | .079 | .321 9776 | 2463 | 75 44 37.46 | 50.79 |
| 2.030 | 1.309 6201 | 2582 | 75 02 08.54 | 53.26 | 2.080 | 1.322 2238 | 2460 | 75 45 28.23 | 50.75 |
| .031 | .309 8782 | 2580 | 75 03 01.78 | 53.21 | .081 | .322 4697 | 2458 | 75 46 18.95 | 50.70 |
| .032 | .310 1361 | 2577 | 75 03 54.96 | 53.16 | .082 | .322 7153 | 2455 | 75 47 09.62 | 50.65 |
| .033 | .310 3936 | 2575 | 75 04 48.09 | 53.11 | .083 | .322 9608 | 2453 | 75 48 00.24 | 50.60 |
| .034 | .310 6510 | 2572 | 75 05 41.17 | 53.06 | .084 | .323 2059 | 2451 | 75 48 50.82 | 50.55 |
| 2.035 | 1.310 9081 | 2570 | 75 06 34.20 | 53.00 | 2.085 | 1.323 4509 | 2448 | 75 49 41.34 | 50.50 |
| .036 | .311 1649 | 2567 | 75 07 27.18 | 52.95 | .086 | .323 6956 | 2446 | 75 50 31.82 | 50.45 |
| .037 | .311 4215 | 2565 | 75 08 20.11 | 52.90 | .087 | .323 9401 | 2444 | 75 51 22.25 | 50.40 |
| .038 | .311 6779 | 2562 | 75 09 12.99 | 52.85 | .088 | .324 1843 | 2441 | 75 52 12.62 | 50.35 |
| .039 | .311 9340 | 2560 | 75 10 05.81 | 52.80 | .089 | .324 4283 | 2439 | 75 53 02.95 | 50.30 |
| 2.040 | 1.312 1898 | 2557 | 75 10 58.59 | 52.75 | 2.090 | 1.324 6721 | 2436 | 75 53 53.23 | 50.26 |
| .041 | .312 4455 | 2555 | 75 11 51.31 | 52.70 | .091 | .324 9156 | 2434 | 75 54 43.46 | 50.21 |
| .042 | .312 7008 | 2552 | 75 12 43.98 | 52.65 | .092 | .325 1589 | 2432 | 75 55 33.65 | 50.16 |
| .043 | .312 9559 | 2550 | 75 13 36.60 | 52.60 | .093 | .325 4020 | 2429 | 75 56 23.78 | 50.11 |
| .044 | .313 2108 | 2547 | 75 14 29.17 | 52.55 | .094 | .325 6448 | 2427 | 75 57 13.86 | 50.06 |
| 2.045 | 1.313 4654 | 2545 | 75 15 21.69 | 52.49 | 2.095 | 1.325 8874 | 2425 | 75 58 03.90 | 50.01 |
| .046 | .313 7198 | 2543 | 75 16 14.16 | 52.44 | .096 | .326 1297 | 2422 | 75 58 53.89 | 49.96 |
| .047 | .313 9739 | 2540 | 75 17 06.58 | 52.39 | .097 | .326 3718 | 2420 | 75 59 43.83 | 49.92 |
| .048 | .314 2278 | 2538 | 75 17 58.95 | 52.34 | .098 | .326 6137 | 2418 | 76 00 33.72 | 49.87 |
| .049 | .314 4815 | 2535 | 75 18 51.27 | 52.29 | .099 | .326 8554 | 2415 | 76 01 23.56 | 49.82 |
| 2.050 | 1.314 7349 | 2533 | 75 19 43.53 | 52.24 | 2.100 | 1.327 0968 | 2413 | 76 02 13.36 | 49.77 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.100 | 1.327 0968 | 2413 | 76° 02' 13.36" | 49.77 | 2.150 | 1.338 8732 | 2298 | 76° 42' 42.42" | 47.41 |
| .101 | .327 3380 | 2411 | 76° 03' 03.11" | 49.72 | .151 | .339 1029 | 2296 | 76° 43' 29.81" | 47.36 |
| .102 | .327 5789 | 2408 | 76° 03' 52.80" | 49.67 | .152 | .339 3325 | 2294 | 76° 44' 17.15" | 47.32 |
| .103 | .327 8106 | 2406 | 76° 04' 42.45" | 49.63 | .153 | .339 5617 | 2292 | 76° 45' 04.44" | 47.27 |
| .104 | .328 0601 | 2404 | 76° 05' 32.06" | 49.58 | .154 | .339 7908 | 2290 | 76° 45' 51.69" | 47.23 |
| 2.105 | 1.328 3003 | 2401 | 76° 06' 21.61" | 49.53 | 2.155 | 1.340 0197 | 2287 | 76° 46' 38.80" | 47.18 |
| .106 | .328 5403 | 2399 | 76° 07' 11.11" | 49.48 | .156 | .340 2483 | 2285 | 76° 47' 26.05" | 47.13 |
| .107 | .328 7801 | 2397 | 76° 08' 00.57" | 49.43 | .157 | .340 4767 | 2283 | 76° 48' 13.16" | 47.09 |
| .108 | .329 0197 | 2394 | 76° 08' 49.08" | 49.39 | .158 | .340 7049 | 2281 | 76° 49' 00.23" | 47.04 |
| .109 | .329 2590 | 2392 | 76° 09' 39.34" | 49.34 | .159 | .340 9328 | 2278 | 76° 49' 47.25" | 47.00 |
| 2.110 | 1.329 4980 | 2390 | 76° 10' 28.66" | 49.29 | 2.160 | 1.341 1605 | 2276 | 76° 50' 34.22" | 46.95 |
| .111 | .329 7369 | 2387 | 76° 11' 17.92" | 49.24 | .161 | .341 3881 | 2274 | 76° 51' 21.15" | 46.90 |
| .112 | .329 9755 | 2385 | 76° 12' 07.14" | 49.19 | .162 | .341 6153 | 2272 | 76° 52' 08.03" | 46.86 |
| .113 | .330 2139 | 2383 | 76° 12' 56.31" | 49.15 | .163 | .341 8424 | 2270 | 76° 52' 54.87" | 46.81 |
| .114 | .330 4520 | 2380 | 76° 13' 45.43" | 49.10 | .164 | .342 0693 | 2267 | 76° 53' 41.66" | 46.77 |
| 2.115 | 1.330 6900 | 2378 | 76° 14' 34.51" | 49.05 | 2.165 | 1.342 2959 | 2265 | 76° 54' 28.40" | 46.72 |
| .116 | .330 9277 | 2376 | 76° 15' 23.54" | 49.00 | .166 | .342 5223 | 2263 | 76° 55' 15.10" | 46.68 |
| .117 | .331 1651 | 2373 | 76° 16' 12.52" | 48.96 | .167 | .342 7485 | 2261 | 76° 56' 01.76" | 46.63 |
| .118 | .331 4023 | 2371 | 76° 17' 01.45" | 48.91 | .168 | .342 9744 | 2259 | 76° 56' 48.36" | 46.59 |
| .119 | .331 6393 | 2369 | 76° 17' 50.33" | 48.86 | .169 | .343 2002 | 2256 | 76° 57' 34.93" | 46.54 |
| 2.120 | 1.331 8761 | 2367 | 76° 18' 39.17" | 48.81 | 2.170 | 1.343 4257 | 2254 | 76° 58' 21.45" | 46.50 |
| .121 | .332 1127 | 2364 | 76° 19' 27.90" | 48.77 | .171 | .343 6510 | 2252 | 76° 59' 07.92" | 46.45 |
| .122 | .332 3490 | 2362 | 76° 20' 16.70" | 48.72 | .172 | .343 8761 | 2250 | 76° 59' 54.35" | 46.41 |
| .123 | .332 5850 | 2360 | 76° 21' 05.40" | 48.67 | .173 | .344 1010 | 2248 | 77° 00' 40.73" | 46.36 |
| .124 | .332 8209 | 2357 | 76° 21' 54.04" | 48.62 | .174 | .344 3256 | 2245 | 77° 01' 27.07" | 46.31 |
| 2.125 | 1.333 0565 | 2355 | 76° 22' 42.64" | 48.58 | 2.175 | 1.344 5501 | 2243 | 77° 02' 13.36" | 46.27 |
| .126 | .333 2919 | 2353 | 76° 23' 31.20" | 48.53 | .176 | .344 7743 | 2241 | 77° 02' 59.61" | 46.22 |
| .127 | .333 5271 | 2350 | 76° 24' 19.70" | 48.48 | .177 | .344 9983 | 2239 | 77° 03' 45.81" | 46.18 |
| .128 | .333 7620 | 2348 | 76° 25' 08.16" | 48.44 | .178 | .345 2220 | 2237 | 77° 04' 31.96" | 46.13 |
| .129 | .333 9967 | 2346 | 76° 25' 56.57" | 48.39 | .179 | .345 4456 | 2234 | 77° 05' 18.08" | 46.09 |
| 2.130 | 1.334 2312 | 2344 | 76° 26' 44.94" | 48.34 | 2.180 | 1.345 6689 | 2232 | 77° 06' 04.14" | 46.04 |
| .131 | .334 4654 | 2341 | 76° 27' 33.26" | 48.29 | .181 | .345 8921 | 2230 | 77° 06' 50.17" | 46.00 |
| .132 | .334 6995 | 2339 | 76° 28' 21.53" | 48.25 | .182 | .346 1150 | 2228 | 77° 07' 36.14" | 45.95 |
| .133 | .334 9333 | 2337 | 76° 29' 09.75" | 48.20 | .183 | .346 3377 | 2226 | 77° 08' 22.08" | 45.91 |
| .134 | .335 1668 | 2335 | 76° 29' 57.93" | 48.15 | .184 | .346 5601 | 2224 | 77° 09' 07.96" | 45.87 |
| 2.135 | 1.335 4002 | 2332 | 76° 30' 46.06" | 48.11 | 2.185 | 1.346 7824 | 2221 | 77° 09' 53.81" | 45.82 |
| .136 | .335 6333 | 2330 | 76° 31' 34.14" | 48.06 | .186 | .347 0044 | 2219 | 77° 10' 39.60" | 45.78 |
| .137 | .335 8662 | 2328 | 76° 32' 22.18" | 48.01 | .187 | .347 2262 | 2217 | 77° 11' 25.36" | 45.73 |
| .138 | .336 0988 | 2325 | 76° 33' 10.17" | 47.97 | .188 | .347 4478 | 2215 | 77° 12' 11.07" | 45.69 |
| .139 | .336 3313 | 2323 | 76° 33' 58.11" | 47.92 | .189 | .347 6692 | 2213 | 77° 12' 56.73" | 45.64 |
| 2.140 | 1.336 5635 | 2321 | 76° 34' 46.01" | 47.87 | 2.190 | 1.347 8904 | 2211 | 77° 13' 42.35" | 45.60 |
| .141 | .336 7955 | 2319 | 76° 35' 33.86" | 47.83 | .191 | .348 1114 | 2208 | 77° 14' 27.93" | 45.55 |
| .142 | .337 0272 | 2316 | 76° 36' 21.66" | 47.78 | .192 | .348 3321 | 2206 | 77° 15' 13.46" | 45.51 |
| .143 | .337 2588 | 2314 | 76° 37' 09.42" | 47.73 | .193 | .348 5526 | 2204 | 77° 15' 58.95" | 45.46 |
| .144 | .337 4901 | 2312 | 76° 37' 57.13" | 47.69 | .194 | .348 7729 | 2202 | 77° 16' 44.39" | 45.42 |
| 2.145 | 1.337 7212 | 2310 | 76° 38' 44.79" | 47.64 | 2.195 | 1.348 9930 | 2200 | 77° 17' 29.79" | 45.38 |
| .146 | .337 9520 | 2307 | 76° 39' 32.41" | 47.59 | .196 | .349 2129 | 2198 | 77° 18' 15.14" | 45.33 |
| .147 | .338 1826 | 2305 | 76° 40' 19.98" | 47.55 | .197 | .349 4326 | 2196 | 77° 19' 00.45" | 45.29 |
| .148 | .338 4131 | 2303 | 76° 41' 07.51" | 47.50 | .198 | .349 6520 | 2193 | 77° 19' 45.72" | 45.24 |
| .149 | .338 6432 | 2301 | 76° 41' 54.99" | 47.46 | .199 | .349 8713 | 2191 | 77° 20' 30.94" | 45.20 |
| 2.150 | 1.338 8732 | 2298 | 76° 42' 42.42" | 47.41 | 2.200 | 1.350 0903 | 2189 | 77° 21' 16.11" | 45.16 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|--|--------------------------------|-------|------------------------------------|--------------------------------|--|--------------------------------|
| | | | [°] ['] ["] | ["] | | | | [°] ['] ["] | ["] |
| 2.200 | 1.350 0903 | 2189 | 77 21 16.11 | 45.16 | 2.250 | 1.360 7733 | 2085 | 77 57 59.64 | 43.00 |
| .201 | .350 3091 | 2187 | 77 22 01.25 | 45.11 | .251 | .360 9817 | 2083 | 77 58 42.62 | 42.96 |
| .202 | .350 5277 | 2185 | 77 22 46.34 | 45.07 | .252 | .361 1899 | 2081 | 77 59 25.56 | 42.92 |
| .203 | .350 7461 | 2183 | 77 23 31.38 | 45.02 | .253 | .361 3978 | 2079 | 78 00 08.46 | 42.88 |
| .204 | .350 9643 | 2181 | 77 24 16.38 | 44.98 | .254 | .361 6056 | 2077 | 78 00 51.32 | 42.83 |
| 2.205 | 1.351 1822 | 2179 | 77 25 01.34 | 44.94 | 2.255 | 1.361 8132 | 2075 | 78 01 34.13 | 42.79 |
| .205 | .351 4000 | 2176 | 77 25 46.25 | 44.89 | .256 | .362 0205 | 2073 | 78 02 16.90 | 42.75 |
| .207 | .351 6175 | 2174 | 77 26 31.12 | 44.85 | .257 | .362 2277 | 2071 | 78 02 59.63 | 42.71 |
| .208 | .351 8348 | 2172 | 77 27 15.95 | 44.80 | .258 | .362 4347 | 2069 | 78 03 42.32 | 42.67 |
| .209 | .352 0519 | 2170 | 77 28 00.73 | 44.76 | .259 | .362 6414 | 2067 | 78 04 24.97 | 42.63 |
| 2.210 | 1.352 2688 | 2168 | 77 28 45.47 | 44.72 | 2.260 | 1.362 8480 | 2065 | 78 05 07.57 | 42.58 |
| .211 | .352 4855 | 2166 | 77 29 30.16 | 44.67 | .261 | .363 0543 | 2063 | 78 05 50.13 | 42.54 |
| .212 | .352 7020 | 2164 | 77 30 14.82 | 44.63 | .262 | .363 2605 | 2060 | 78 06 32.66 | 42.50 |
| .213 | .352 9183 | 2162 | 77 30 59.42 | 44.59 | .263 | .363 4664 | 2058 | 78 07 15.14 | 42.46 |
| .214 | .353 1343 | 2159 | 77 31 43.99 | 44.54 | .264 | .363 6722 | 2056 | 78 07 57.57 | 42.42 |
| 2.215 | 1.353 3502 | 2157 | 77 32 28.51 | 44.50 | 2.265 | 1.363 8777 | 2054 | 78 08 39.97 | 42.38 |
| .216 | .353 5658 | 2155 | 77 33 12.99 | 44.46 | .266 | .364 0831 | 2052 | 78 09 22.33 | 42.33 |
| .217 | .353 7812 | 2153 | 77 33 57.42 | 44.41 | .267 | .364 2882 | 2050 | 78 10 04.64 | 42.29 |
| .218 | .353 9964 | 2151 | 77 34 41.81 | 44.37 | .268 | .364 4931 | 2048 | 78 10 46.91 | 42.25 |
| .219 | .354 2114 | 2149 | 77 35 26.16 | 44.33 | .269 | .364 6979 | 2046 | 78 11 29.14 | 42.21 |
| 2.220 | 1.354 4262 | 2147 | 77 36 10.46 | 44.28 | 2.270 | 1.364 9024 | 2044 | 78 12 11.33 | 42.17 |
| .221 | .354 6408 | 2145 | 77 36 54.72 | 44.24 | .271 | .365 1068 | 2042 | 78 12 53.48 | 42.13 |
| .222 | .354 8552 | 2143 | 77 37 38.94 | 44.20 | .272 | .365 3109 | 2040 | 78 13 35.59 | 42.09 |
| .223 | .355 0693 | 2141 | 77 38 23.11 | 44.15 | .273 | .365 5149 | 2038 | 78 14 17.66 | 42.05 |
| .224 | .355 2833 | 2138 | 77 39 07.24 | 44.11 | .274 | .365 7186 | 2036 | 78 14 59.68 | 42.00 |
| 2.225 | 1.355 4970 | 2136 | 77 39 51.33 | 44.07 | 2.275 | 1.365 9221 | 2034 | 78 15 41.66 | 41.96 |
| .226 | .355 7106 | 2134 | 77 40 35.38 | 44.02 | .276 | .366 1255 | 2032 | 78 16 23.61 | 41.92 |
| .227 | .355 9239 | 2132 | 77 41 19.38 | 43.98 | .277 | .366 3286 | 2030 | 78 17 05.51 | 41.88 |
| .228 | .356 1370 | 2130 | 77 42 03.34 | 43.94 | .278 | .366 5316 | 2028 | 78 17 47.37 | 41.84 |
| .229 | .356 3499 | 2128 | 77 42 47.25 | 43.89 | .279 | .366 7343 | 2026 | 78 18 29.19 | 41.80 |
| 2.230 | 1.356 5626 | 2126 | 77 43 31.13 | 43.85 | 2.280 | 1.366 9369 | 2024 | 78 19 10.97 | 41.76 |
| .231 | .356 7751 | 2124 | 77 44 14.96 | 43.81 | .281 | .367 1392 | 2023 | 78 19 52.71 | 41.72 |
| .232 | .356 9874 | 2122 | 77 44 58.74 | 43.77 | .282 | .367 3414 | 2021 | 78 20 34.40 | 41.68 |
| .233 | .357 2095 | 2120 | 77 45 42.49 | 43.72 | .283 | .367 5433 | 2019 | 78 21 16.06 | 41.64 |
| .234 | .357 4114 | 2118 | 77 46 26.19 | 43.68 | .284 | .367 7451 | 2017 | 78 21 57.68 | 41.60 |
| 2.235 | 1.357 6230 | 2116 | 77 47 09.85 | 43.64 | 2.285 | 1.367 9466 | 2015 | 78 22 39.25 | 41.55 |
| .236 | .357 8345 | 2114 | 77 47 53.47 | 43.60 | .286 | .368 1480 | 2013 | 78 23 20.78 | 41.51 |
| .237 | .358 0457 | 2111 | 77 48 37.04 | 43.55 | .287 | .368 3492 | 2011 | 78 24 02.28 | 41.47 |
| .238 | .358 2568 | 2109 | 77 49 20.57 | 43.51 | .288 | .368 5501 | 2009 | 78 24 43.73 | 41.43 |
| .239 | .358 4676 | 2107 | 77 50 04.06 | 43.47 | .289 | .368 7509 | 2007 | 78 25 25.14 | 41.39 |
| 2.240 | 1.358 6783 | 2105 | 77 50 47.51 | 43.43 | 2.290 | 1.368 9515 | 2005 | 78 26 06.51 | 41.35 |
| .241 | .358 8887 | 2103 | 77 51 30.91 | 43.38 | .291 | .369 1519 | 2003 | 78 26 47.85 | 41.31 |
| .242 | .359 0989 | 2101 | 77 52 14.27 | 43.34 | .292 | .369 3521 | 2001 | 78 27 29.14 | 41.27 |
| .243 | .359 3089 | 2099 | 77 52 57.59 | 43.30 | .293 | .369 5520 | 1999 | 78 28 10.39 | 41.23 |
| .244 | .359 5187 | 2097 | 77 53 40.87 | 43.26 | .294 | .369 7518 | 1997 | 78 28 51.60 | 41.19 |
| 2.245 | 1.359 7283 | 2095 | 77 54 24.10 | 43.21 | 2.295 | 1.369 9514 | 1995 | 78 29 32.77 | 41.15 |
| .246 | .359 9377 | 2093 | 77 55 07.29 | 43.17 | .296 | .370 1508 | 1993 | 78 30 13.89 | 41.11 |
| .247 | .360 1469 | 2091 | 77 55 50.44 | 43.13 | .297 | .370 3500 | 1991 | 78 30 54.98 | 41.07 |
| .248 | .360 3559 | 2089 | 77 56 33.55 | 43.09 | .298 | .370 5490 | 1989 | 78 31 36.03 | 41.03 |
| .249 | .360 5647 | 2087 | 77 57 16.62 | 43.04 | .299 | .370 7479 | 1987 | 78 32 17.04 | 40.99 |
| 2.250 | 1.360 7733 | 2085 | 77 57 59.64 | 43.00 | 2.300 | 1.370 9465 | 1985 | 78 32 58.01 | 40.95 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.300 | 1.370 9465 | 1985 | 78 32 58.01 | 40.95 | 2.350 | 1.380 6331 | 1890 | 79 06 16.03 | 38.99 |
| .301 | .371 1449 | 1983 | 78 33 38.94 | 40.91 | .351 | .380 8221 | 1888 | 79 06 55.00 | 38.95 |
| .302 | .371 3431 | 1981 | 78 34 19.82 | 40.87 | .352 | .381 0108 | 1886 | 79 07 33.93 | 38.91 |
| .303 | .371 5412 | 1979 | 78 35 00.67 | 40.83 | .353 | .381 1994 | 1885 | 79 08 12.82 | 38.87 |
| .304 | .371 7390 | 1977 | 78 35 41.48 | 40.79 | .354 | .381 3877 | 1883 | 79 08 51.67 | 38.84 |
| 2.305 | 1.371 9367 | 1975 | 78 36 22.25 | 40.75 | 2.355 | 1.381 5759 | 1881 | 79 09 30.49 | 38.80 |
| .306 | .372 1341 | 1974 | 78 37 02.98 | 40.71 | .356 | .381 7639 | 1879 | 79 10 09.27 | 38.76 |
| .307 | .372 3314 | 1972 | 78 37 43.66 | 40.66 | .357 | .381 9517 | 1877 | 79 10 48.01 | 38.72 |
| .308 | .372 5284 | 1970 | 78 38 24.31 | 40.63 | .358 | .382 1394 | 1875 | 79 11 26.71 | 38.68 |
| .309 | .372 7253 | 1968 | 78 39 04.92 | 40.59 | .359 | .382 3268 | 1874 | 79 12 05.37 | 38.64 |
| 2.310 | 1.372 9220 | 1966 | 78 39 45.49 | 40.55 | 2.360 | 1.382 5141 | 1872 | 79 12 44.00 | 38.61 |
| .311 | .373 1185 | 1964 | 78 40 26.02 | 40.51 | .361 | .382 7012 | 1870 | 79 13 22.59 | 38.57 |
| .312 | .373 3148 | 1962 | 78 41 06.51 | 40.47 | .362 | .382 8881 | 1868 | 79 14 01.14 | 38.53 |
| .313 | .373 5109 | 1960 | 78 41 46.96 | 40.43 | .363 | .383 0748 | 1866 | 79 14 39.65 | 38.49 |
| .314 | .373 7068 | 1958 | 78 42 27.37 | 40.39 | .364 | .383 2613 | 1864 | 79 15 18.12 | 38.46 |
| 2.315 | 1.373 9025 | 1956 | 78 43 07.74 | 40.35 | 2.365 | 1.383 4476 | 1863 | 79 15 56.56 | 38.42 |
| .316 | .374 0980 | 1954 | 78 43 48.07 | 40.31 | .366 | .383 6338 | 1861 | 79 16 34.96 | 38.38 |
| .317 | .374 2934 | 1952 | 78 44 28.36 | 40.27 | .367 | .383 8198 | 1859 | 79 17 13.32 | 38.34 |
| .318 | .374 4885 | 1950 | 78 45 08.61 | 40.23 | .368 | .384 0056 | 1857 | 79 17 51.64 | 38.30 |
| .319 | .374 6835 | 1949 | 78 45 48.82 | 40.19 | .369 | .384 1912 | 1855 | 79 18 29.93 | 38.27 |
| 2.320 | 1.374 8782 | 1947 | 78 46 28.99 | 40.15 | 2.370 | 1.384 3766 | 1853 | 79 19 08.18 | 38.23 |
| .321 | .375 0728 | 1945 | 78 47 09.13 | 40.11 | .371 | .384 5619 | 1852 | 79 19 46.39 | 38.19 |
| .322 | .375 2672 | 1943 | 78 47 49.22 | 40.07 | .372 | .384 7470 | 1850 | 79 20 24.56 | 38.15 |
| .323 | .375 4614 | 1941 | 78 48 29.28 | 40.04 | .373 | .384 9318 | 1848 | 79 21 02.70 | 38.12 |
| .324 | .375 6554 | 1939 | 78 49 09.29 | 40.00 | .374 | .385 1165 | 1846 | 79 21 40.80 | 38.08 |
| 2.325 | 1.375 8492 | 1937 | 78 49 49.27 | 39.96 | 2.375 | 1.385 3011 | 1844 | 79 22 18.86 | 38.04 |
| .326 | .376 0428 | 1935 | 78 50 29.21 | 39.92 | .376 | .385 4854 | 1843 | 79 22 56.88 | 38.00 |
| .327 | .376 2362 | 1933 | 78 51 09.10 | 39.88 | .377 | .385 6696 | 1841 | 79 23 34.87 | 37.97 |
| .328 | .376 4295 | 1931 | 78 51 48.96 | 39.84 | .378 | .385 8536 | 1839 | 79 24 12.81 | 37.93 |
| .329 | .376 6225 | 1930 | 78 52 28.78 | 39.80 | .379 | .386 0374 | 1837 | 79 24 50.73 | 37.89 |
| 2.330 | 1.376 8154 | 1928 | 78 53 08.56 | 39.76 | 2.380 | 1.386 2210 | 1835 | 79 25 28.60 | 37.86 |
| .331 | .377 0081 | 1926 | 78 53 48.30 | 39.72 | .381 | .386 4044 | 1833 | 79 26 06.44 | 37.82 |
| .332 | .377 2006 | 1924 | 78 54 28.01 | 39.68 | .382 | .386 5877 | 1832 | 79 26 44.24 | 37.78 |
| .333 | .377 3929 | 1922 | 78 55 07.67 | 39.64 | .383 | .386 7708 | 1830 | 79 27 22.00 | 37.74 |
| .334 | .377 5850 | 1920 | 78 55 47.29 | 39.61 | .384 | .386 9537 | 1828 | 79 27 59.73 | 37.71 |
| 2.335 | 1.377 7769 | 1918 | 78 56 26.88 | 39.57 | 2.385 | 1.387 1364 | 1826 | 79 28 37.41 | 37.67 |
| .336 | .377 9686 | 1916 | 78 57 06.43 | 39.53 | .386 | .387 3189 | 1824 | 79 29 15.07 | 37.63 |
| .337 | .378 1601 | 1914 | 78 57 45.94 | 39.49 | .387 | .387 5013 | 1823 | 79 29 52.68 | 37.60 |
| .338 | .378 3515 | 1913 | 78 58 25.40 | 39.45 | .388 | .387 6834 | 1821 | 79 30 30.26 | 37.56 |
| .339 | .378 5427 | 1911 | 78 59 04.84 | 39.41 | .389 | .387 8655 | 1819 | 79 31 07.80 | 37.52 |
| 2.340 | 1.378 7336 | 1909 | 78 59 44.23 | 39.37 | 2.390 | 1.388 0473 | 1817 | 79 31 45.30 | 37.49 |
| .341 | .378 9244 | 1907 | 79 00 23.58 | 39.33 | .391 | .388 2289 | 1816 | 79 32 22.77 | 37.45 |
| .342 | .379 1150 | 1905 | 79 01 02.89 | 39.30 | .392 | .388 4104 | 1814 | 79 33 00.20 | 37.41 |
| .343 | .379 3054 | 1903 | 79 01 42.17 | 39.26 | .393 | .388 5917 | 1812 | 79 33 37.59 | 37.37 |
| .344 | .379 4957 | 1901 | 79 02 21.41 | 39.22 | .394 | .388 7728 | 1810 | 79 34 14.95 | 37.34 |
| 2.345 | 1.379 6857 | 1899 | 79 03 00.61 | 39.18 | 2.395 | 1.388 9537 | 1808 | 79 34 52.27 | 37.30 |
| .346 | .379 8756 | 1898 | 79 03 39.77 | 39.14 | .396 | .389 1345 | 1807 | 79 35 29.55 | 37.26 |
| .347 | .380 0652 | 1896 | 79 04 18.89 | 39.10 | .397 | .389 3150 | 1805 | 79 36 06.80 | 37.23 |
| .348 | .380 2547 | 1894 | 79 04 57.97 | 39.06 | .398 | .389 4954 | 1803 | 79 36 44.01 | 37.19 |
| .349 | .380 4440 | 1892 | 79 05 37.02 | 39.03 | .399 | .389 6757 | 1801 | 79 37 21.18 | 37.15 |
| 2.350 | 1.380 6331 | 1890 | 79 06 16.03 | 38.99 | 2.400 | 1.389 8557 | 1800 | 79 37 58.32 | 37.12 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|--|--------------------------------|-------|------------------------------------|--------------------------------|--|--------------------------------|
| | | | [°] ['] ["] | ["] | | | | [°] ['] ["] | ["] |
| 2.400 | 1.389 8557 | 1800 | 79 37 58.32 | 37.12 | 2.450 | 1.398 6356 | 1713 | 80 08 09.31 | 35.34 |
| .401 | .390 0356 | 1798 | 79 38 35.42 | 37.08 | .451 | .398 8059 | 1711 | 80 08 44.63 | 35.30 |
| .402 | .390 2153 | 1796 | 79 39 12.48 | 37.05 | .452 | .398 9779 | 1710 | 80 09 19.91 | 35.27 |
| .403 | .390 3948 | 1794 | 79 39 49.51 | 37.01 | .453 | .399 1488 | 1708 | 80 09 55.16 | 35.23 |
| .404 | .390 5741 | 1792 | 79 40 26.50 | 36.97 | .454 | .399 3195 | 1706 | 80 10 30.37 | 35.20 |
| 2.405 | 1.390 7533 | 1791 | 79 41 03.45 | 36.94 | 2.455 | 1.399 4901 | 1705 | 80 11 05.55 | 35.16 |
| .406 | .390 9323 | 1789 | 79 41 40.37 | 36.90 | .456 | .399 6605 | 1703 | 80 11 40.70 | 35.13 |
| .407 | .391 1111 | 1787 | 79 42 17.25 | 36.86 | .457 | .399 8307 | 1701 | 80 12 15.81 | 35.09 |
| .408 | .391 2897 | 1785 | 79 42 54.10 | 36.83 | .458 | .400 0007 | 1700 | 80 12 50.88 | 35.06 |
| .409 | .391 4681 | 1784 | 79 43 30.91 | 36.79 | .459 | .400 1706 | 1698 | 80 13 25.92 | 35.02 |
| 2.410 | 1.391 6464 | 1782 | 79 44 07.68 | 36.75 | 2.460 | 1.400 3403 | 1696 | 80 14 00.93 | 34.99 |
| .411 | .391 8245 | 1780 | 79 44 44.42 | 36.72 | .461 | .400 5099 | 1695 | 80 14 35.90 | 34.95 |
| .412 | .392 0025 | 1778 | 79 45 21.12 | 36.68 | .462 | .400 6793 | 1693 | 80 15 10.84 | 34.92 |
| .413 | .392 1802 | 1777 | 79 45 57.78 | 36.65 | .463 | .400 8485 | 1691 | 80 15 45.74 | 34.89 |
| .414 | .392 3578 | 1775 | 79 46 34.41 | 36.61 | .464 | .401 0175 | 1690 | 80 16 20.61 | 34.85 |
| 2.415 | 1.392 5352 | 1773 | 79 47 11.00 | 36.57 | 2.465 | 1.401 1864 | 1688 | 80 16 55.45 | 34.82 |
| .416 | .392 7124 | 1771 | 79 47 47.56 | 36.54 | .466 | .401 3551 | 1686 | 80 17 30.25 | 34.78 |
| .417 | .392 8895 | 1770 | 79 48 24.08 | 36.50 | .467 | .401 5237 | 1685 | 80 18 05.01 | 34.75 |
| .418 | .393 0664 | 1768 | 79 49 00.57 | 36.47 | .468 | .401 6921 | 1683 | 80 18 39.74 | 34.71 |
| .419 | .393 2431 | 1766 | 79 49 37.02 | 36.43 | .469 | .401 8603 | 1681 | 80 19 14.44 | 34.68 |
| 2.420 | 1.393 4196 | 1764 | 79 50 13.43 | 36.39 | 2.470 | 1.402 0283 | 1680 | 80 19 49.10 | 34.65 |
| .421 | .393 5960 | 1763 | 79 50 49.80 | 36.36 | .471 | .402 1962 | 1678 | 80 20 23.73 | 34.61 |
| .422 | .393 7722 | 1761 | 79 51 26.15 | 36.32 | .472 | .402 3639 | 1676 | 80 20 58.33 | 34.58 |
| .423 | .393 9482 | 1759 | 79 52 02.45 | 36.29 | .473 | .402 5315 | 1675 | 80 21 32.89 | 34.54 |
| .424 | .394 1240 | 1758 | 79 52 38.72 | 36.25 | .474 | .402 6989 | 1673 | 80 22 07.41 | 34.51 |
| 2.425 | 1.394 2997 | 1756 | 79 53 14.96 | 36.22 | 2.475 | 1.402 8661 | 1672 | 80 22 41.91 | 34.48 |
| .426 | .394 4752 | 1754 | 79 53 51.15 | 36.18 | .476 | .403 0332 | 1670 | 80 23 16.36 | 34.44 |
| .427 | .394 6505 | 1752 | 79 54 27.32 | 36.14 | .477 | .403 2001 | 1668 | 80 23 50.79 | 34.41 |
| .428 | .394 8257 | 1751 | 79 55 03.44 | 36.11 | .478 | .403 3668 | 1666 | 80 24 25.18 | 34.37 |
| .429 | .395 0006 | 1749 | 79 55 39.54 | 36.07 | .479 | .403 5334 | 1665 | 80 24 59.54 | 34.34 |
| 2.430 | 1.395 1754 | 1747 | 79 56 15.59 | 36.04 | 2.480 | 1.403 6998 | 1663 | 80 25 33.86 | 34.31 |
| .431 | .395 3501 | 1745 | 79 56 51.61 | 36.00 | .481 | .403 8660 | 1662 | 80 26 08.15 | 34.27 |
| .432 | .395 5245 | 1744 | 79 57 27.60 | 35.97 | .482 | .404 0321 | 1660 | 80 26 42.40 | 34.24 |
| .433 | .395 6988 | 1742 | 79 58 03.55 | 35.93 | .483 | .404 1980 | 1658 | 80 27 16.62 | 34.20 |
| .434 | .395 8729 | 1740 | 79 58 39.46 | 35.90 | .484 | .404 3637 | 1657 | 80 27 50.81 | 34.17 |
| 2.435 | 1.396 0469 | 1739 | 79 59 15.34 | 35.86 | 2.485 | 1.404 5293 | 1655 | 80 28 24.97 | 34.14 |
| .436 | .396 2207 | 1737 | 79 59 51.19 | 35.83 | .486 | .404 6947 | 1653 | 80 28 59.09 | 34.10 |
| .437 | .396 3943 | 1735 | 80 00 26.99 | 35.79 | .487 | .404 8600 | 1652 | 80 29 33.17 | 34.07 |
| .438 | .396 5677 | 1733 | 80 01 02.77 | 35.76 | .488 | .405 0251 | 1650 | 80 30 07.23 | 34.04 |
| .439 | .396 7410 | 1732 | 80 01 38.51 | 35.72 | .489 | .405 1900 | 1648 | 80 30 41.25 | 34.00 |
| 2.440 | 1.396 9141 | 1730 | 80 02 14.21 | 35.69 | 2.490 | 1.405 3548 | 1647 | 80 31 15.23 | 33.97 |
| .441 | .397 0870 | 1728 | 80 02 49.88 | 35.65 | .491 | .405 5194 | 1645 | 80 31 49.19 | 33.94 |
| .442 | .397 2597 | 1727 | 80 03 25.51 | 35.62 | .492 | .405 6838 | 1644 | 80 32 23.10 | 33.90 |
| .443 | .397 4323 | 1725 | 80 04 01.11 | 35.58 | .493 | .405 8481 | 1642 | 80 32 56.99 | 33.87 |
| .444 | .397 6047 | 1723 | 80 04 36.67 | 35.54 | .494 | .406 0122 | 1640 | 80 33 30.84 | 33.84 |
| 2.445 | 1.397 7770 | 1722 | 80 05 12.20 | 35.51 | 2.495 | 1.406 1762 | 1639 | 80 34 04.66 | 33.80 |
| .446 | .397 9490 | 1720 | 80 05 47.69 | 35.48 | .496 | .406 3400 | 1637 | 80 34 38.45 | 33.77 |
| .447 | .398 1209 | 1718 | 80 06 23.15 | 35.44 | .497 | .406 5036 | 1636 | 80 35 12.20 | 33.74 |
| .448 | .398 2927 | 1716 | 80 06 58.57 | 35.41 | .498 | .406 6671 | 1634 | 80 35 45.92 | 33.70 |
| .449 | .398 4642 | 1715 | 80 07 33.96 | 35.37 | .499 | .406 8304 | 1632 | 80 36 19.60 | 33.67 |
| 2.450 | 1.398 6356 | 1713 | 80 08 09.31 | 35.34 | 2.500 | 1.406 9936 | 1631 | 80 36 53.26 | 33.64 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.500 | 1.406 9936 | 1631 | 80 36 53.26 | 33.64 | 2.550 | 1.414 9492 | 1552 | 81 04 14.22 | 32.02 |
| .501 | .407 1566 | 1629 | 80 37 26.88 | 33.60 | .551 | .415 1043 | 1551 | 81 04 46.22 | 31.98 |
| .502 | .407 3194 | 1627 | 80 38 00.46 | 33.57 | .552 | .415 2593 | 1549 | 81 05 18.19 | 31.95 |
| .503 | .407 4821 | 1626 | 80 38 34.01 | 33.54 | .553 | .415 4142 | 1548 | 81 05 50.13 | 31.92 |
| .504 | .407 6446 | 1624 | 80 39 07.54 | 33.50 | .554 | .415 5688 | 1546 | 81 06 22.03 | 31.89 |
| 2.505 | 1.407 8069 | 1623 | 80 39 41.02 | 33.47 | 2.555 | 1.415 7234 | 1545 | 81 06 53.91 | 31.86 |
| .506 | .407 9691 | 1621 | 80 40 14.47 | 33.44 | .556 | .415 8778 | 1543 | 81 07 25.75 | 31.83 |
| .507 | .408 1311 | 1619 | 80 40 47.90 | 33.40 | .557 | .416 0320 | 1541 | 81 07 57.56 | 31.80 |
| .508 | .408 2930 | 1618 | 80 41 21.28 | 33.37 | .558 | .416 1860 | 1540 | 81 08 29.34 | 31.76 |
| .509 | .408 4547 | 1616 | 80 41 54.64 | 33.34 | .559 | .416 3400 | 1538 | 81 09 01.09 | 31.73 |
| 2.510 | 1.408 6163 | 1615 | 80 42 27.96 | 33.31 | 2.560 | 1.416 4937 | 1537 | 81 09 32.80 | 31.70 |
| .511 | .408 7777 | 1613 | 80 43 01.25 | 33.27 | .561 | .416 6473 | 1535 | 81 10 04.49 | 31.67 |
| .512 | .408 9389 | 1612 | 80 43 34.51 | 33.24 | .562 | .416 8008 | 1534 | 81 10 36.14 | 31.64 |
| .513 | .409 1000 | 1610 | 80 44 07.73 | 33.21 | .563 | .416 9541 | 1532 | 81 11 07.77 | 31.61 |
| .514 | .409 2609 | 1608 | 80 44 40.92 | 33.17 | .564 | .417 1073 | 1531 | 81 11 39.36 | 31.58 |
| 2.515 | 1.409 4216 | 1607 | 80 45 14.08 | 33.14 | 2.565 | 1.417 2603 | 1529 | 81 12 10.92 | 31.54 |
| .516 | .409 5822 | 1605 | 80 45 47.20 | 33.11 | .566 | .417 4131 | 1528 | 81 12 42.45 | 31.51 |
| .517 | .409 7427 | 1604 | 80 46 20.30 | 33.08 | .567 | .417 5659 | 1526 | 81 13 13.95 | 31.48 |
| .518 | .409 9029 | 1602 | 80 46 53.36 | 33.04 | .568 | .417 7184 | 1525 | 81 13 45.41 | 31.45 |
| .519 | .410 0631 | 1600 | 80 47 26.38 | 33.01 | .569 | .417 8708 | 1523 | 81 14 16.85 | 31.42 |
| 2.520 | 1.410 2230 | 1599 | 80 47 59.38 | 32.98 | 2.570 | 1.418 0231 | 1522 | 81 14 48.25 | 31.39 |
| .521 | .410 3828 | 1597 | 80 48 32.34 | 32.95 | .571 | .418 1752 | 1520 | 81 15 19.63 | 31.36 |
| .522 | .410 5425 | 1596 | 80 49 05.27 | 32.91 | .572 | .418 3271 | 1519 | 81 15 50.97 | 31.33 |
| .523 | .410 7020 | 1594 | 80 49 38.17 | 32.88 | .573 | .418 4789 | 1517 | 81 16 22.28 | 31.30 |
| .524 | .410 8613 | 1593 | 80 50 11.03 | 32.85 | .574 | .418 6306 | 1516 | 81 16 53.56 | 31.27 |
| 2.525 | 1.411 0205 | 1591 | 80 50 43.86 | 32.82 | 2.575 | 1.418 7821 | 1514 | 81 17 24.81 | 31.23 |
| .526 | .411 1795 | 1589 | 80 51 16.66 | 32.78 | .576 | .418 9334 | 1513 | 81 17 56.03 | 31.20 |
| .527 | .411 3384 | 1588 | 80 51 49.43 | 32.75 | .577 | .419 0847 | 1511 | 81 18 27.22 | 31.17 |
| .528 | .411 4971 | 1586 | 80 52 22.17 | 32.72 | .578 | .419 2357 | 1510 | 81 18 58.38 | 31.14 |
| .529 | .411 6556 | 1585 | 80 52 54.87 | 32.69 | .579 | .419 3866 | 1508 | 81 19 29.50 | 31.11 |
| 2.530 | 1.411 8140 | 1583 | 80 53 27.54 | 32.65 | 2.580 | 1.419 5374 | 1507 | 81 20 00.60 | 31.08 |
| .531 | .411 9722 | 1582 | 80 54 00.18 | 32.62 | .581 | .419 6880 | 1505 | 81 20 31.67 | 31.05 |
| .532 | .412 1303 | 1580 | 80 54 32.78 | 32.59 | .582 | .419 8384 | 1504 | 81 21 02.70 | 31.02 |
| .533 | .412 2882 | 1578 | 80 55 05.36 | 32.56 | .583 | .419 9888 | 1502 | 81 21 33.70 | 30.99 |
| .534 | .412 4460 | 1577 | 80 55 37.90 | 32.53 | .584 | .420 1389 | 1501 | 81 22 04.68 | 30.96 |
| 2.535 | 1.412 6036 | 1575 | 80 56 10.41 | 32.49 | 2.585 | 1.420 2889 | 1499 | 81 22 35.62 | 30.93 |
| .536 | .412 7611 | 1574 | 80 56 42.89 | 32.46 | .586 | .420 4388 | 1498 | 81 23 06.53 | 30.90 |
| .537 | .412 9184 | 1572 | 80 57 15.33 | 32.43 | .587 | .420 5885 | 1496 | 81 23 37.41 | 30.87 |
| .538 | .413 0755 | 1571 | 80 57 47.75 | 32.40 | .588 | .420 7381 | 1495 | 81 24 08.26 | 30.84 |
| .539 | .413 2325 | 1569 | 80 58 20.13 | 32.37 | .589 | .420 8875 | 1493 | 81 24 39.09 | 30.81 |
| 2.540 | 1.413 3893 | 1568 | 80 58 52.48 | 32.33 | 2.590 | 1.421 0368 | 1492 | 81 25 09.88 | 30.77 |
| .541 | .413 5460 | 1566 | 80 59 24.80 | 32.30 | .591 | .421 1859 | 1491 | 81 25 40.63 | 30.74 |
| .542 | .413 7025 | 1564 | 80 59 57.08 | 32.27 | .592 | .421 3349 | 1489 | 81 26 11.36 | 30.71 |
| .543 | .413 8589 | 1563 | 81 00 29.34 | 32.24 | .593 | .421 4837 | 1488 | 81 26 42.06 | 30.68 |
| .544 | .414 0151 | 1561 | 81 01 01.56 | 32.21 | .594 | .421 6324 | 1486 | 81 27 12.73 | 30.65 |
| 2.545 | 1.414 1712 | 1560 | 81 01 33.75 | 32.17 | 2.595 | 1.421 7809 | 1485 | 81 27 43.37 | 30.62 |
| .546 | .414 3271 | 1558 | 81 02 05.91 | 32.14 | .596 | .421 9293 | 1483 | 81 28 13.98 | 30.59 |
| .547 | .414 4829 | 1557 | 81 02 38.03 | 32.11 | .597 | .422 0776 | 1482 | 81 28 44.55 | 30.56 |
| .548 | .414 6385 | 1555 | 81 03 10.13 | 32.08 | .598 | .422 2257 | 1480 | 81 29 15.10 | 30.53 |
| .549 | .414 7939 | 1554 | 81 03 42.19 | 32.05 | .599 | .422 3736 | 1479 | 81 29 45.62 | 30.50 |
| 2.550 | 1.414 9492 | 1552 | 81 04 14.22 | 32.02 | 2.600 | 1.422 5214 | 1477 | 81 30 16.11 | 30.47 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.600 | 1.422 5214 | 1477 | 81 30 16.11 | 30.47 | 2.650 | 1.429 7283 | 1406 | 81 55 02.63 | 29.00 |
| .601 | .422 6691 | 1476 | 81 30 46.56 | 30.44 | .651 | .429 8688 | 1405 | 81 55 31.62 | 28.97 |
| .602 | .422 8166 | 1474 | 81 31 16.99 | 30.41 | .652 | .430 0092 | 1403 | 81 56 00.58 | 28.94 |
| .603 | .422 9640 | 1473 | 81 31 47.39 | 30.38 | .653 | .430 1495 | 1402 | 81 56 29.51 | 28.92 |
| .604 | .423 1112 | 1471 | 81 32 17.75 | 30.35 | .654 | .430 2896 | 1400 | 81 56 58.41 | 28.89 |
| 2.605 | 1.423 2583 | 1470 | 81 32 48.09 | 30.32 | 2.655 | 1.430 4296 | 1399 | 81 57 27.28 | 28.86 |
| .606 | .423 4052 | 1469 | 81 33 18.40 | 30.29 | .656 | .430 5694 | 1398 | 81 57 56.12 | 28.83 |
| .607 | .423 5520 | 1467 | 81 33 48.67 | 30.26 | .657 | .430 7091 | 1396 | 81 58 24.94 | 28.80 |
| .608 | .423 6986 | 1466 | 81 34 18.92 | 30.23 | .658 | .430 8487 | 1395 | 81 58 53.72 | 28.77 |
| .609 | .423 8451 | 1464 | 81 34 49.14 | 30.20 | .659 | .430 9881 | 1394 | 81 59 22.48 | 28.74 |
| 2.610 | 1.423 9915 | 1463 | 81 35 19.32 | 30.17 | 2.660 | 1.431 1274 | 1392 | 81 59 51.21 | 28.72 |
| .611 | .424 1377 | 1461 | 81 35 49.48 | 30.14 | .661 | .431 2665 | 1391 | 82 00 19.91 | 28.69 |
| .612 | .424 2837 | 1460 | 81 36 19.61 | 30.11 | .662 | .431 4055 | 1389 | 82 00 48.58 | 28.66 |
| .613 | .424 4297 | 1458 | 81 36 49.71 | 30.08 | .663 | .431 5444 | 1388 | 82 01 17.23 | 28.63 |
| .614 | .424 5754 | 1457 | 81 37 19.77 | 30.05 | .664 | .431 6831 | 1387 | 82 01 45.84 | 28.60 |
| 2.615 | 1.424 7211 | 1456 | 81 37 49.81 | 30.02 | 2.665 | 1.431 8217 | 1385 | 82 02 14.43 | 28.57 |
| .616 | .424 8665 | 1454 | 81 38 19.82 | 29.99 | .666 | .431 9602 | 1384 | 82 02 42.99 | 28.55 |
| .617 | .425 0119 | 1453 | 81 38 49.80 | 29.96 | .667 | .432 0985 | 1383 | 82 03 11.52 | 28.52 |
| .618 | .425 1571 | 1451 | 81 39 19.75 | 29.93 | .668 | .432 2367 | 1381 | 82 03 40.02 | 28.49 |
| .619 | .425 3021 | 1450 | 81 39 49.67 | 29.90 | .669 | .432 3747 | 1380 | 82 04 08.50 | 28.46 |
| 2.620 | 1.425 4470 | 1448 | 81 40 19.56 | 29.87 | 2.670 | 1.432 5127 | 1378 | 82 04 36.95 | 28.43 |
| .621 | .425 5918 | 1447 | 81 40 49.42 | 29.85 | .671 | .432 6504 | 1377 | 82 05 05.36 | 28.40 |
| .622 | .425 7364 | 1446 | 81 41 19.25 | 29.82 | .672 | .432 7881 | 1376 | 82 05 33.75 | 28.38 |
| .623 | .425 8809 | 1444 | 81 41 49.05 | 29.79 | .673 | .432 9256 | 1374 | 82 06 02.12 | 28.35 |
| .624 | .426 0252 | 1443 | 81 42 18.82 | 29.76 | .674 | .433 0629 | 1373 | 82 06 30.45 | 28.32 |
| 2.625 | 1.426 1694 | 1441 | 81 42 48.56 | 29.73 | 2.675 | 1.433 2002 | 1372 | 82 06 58.76 | 28.29 |
| .626 | .426 3135 | 1440 | 81 43 18.28 | 29.70 | .676 | .433 3373 | 1370 | 82 07 27.03 | 28.26 |
| .627 | .426 4574 | 1438 | 81 43 47.96 | 29.67 | .677 | .433 4742 | 1369 | 82 07 55.28 | 28.24 |
| .628 | .426 6012 | 1437 | 81 44 17.61 | 29.64 | .678 | .433 6110 | 1368 | 82 08 23.51 | 28.21 |
| .629 | .426 7448 | 1436 | 81 44 47.24 | 29.61 | .679 | .433 7477 | 1366 | 82 08 51.70 | 28.18 |
| 2.630 | 1.426 8883 | 1434 | 81 45 16.83 | 29.58 | 2.680 | 1.433 8843 | 1365 | 82 09 19.86 | 28.15 |
| .631 | .427 0316 | 1433 | 81 45 46.40 | 29.55 | .681 | .434 0207 | 1363 | 82 09 48.00 | 28.12 |
| .632 | .427 1748 | 1431 | 81 46 15.94 | 29.52 | .682 | .434 1570 | 1362 | 82 10 16.11 | 28.10 |
| .633 | .427 3179 | 1430 | 81 46 45.44 | 29.49 | .683 | .434 2931 | 1361 | 82 10 44.20 | 28.07 |
| .634 | .427 4608 | 1428 | 81 47 14.92 | 29.46 | .684 | .434 4291 | 1359 | 82 11 12.25 | 28.04 |
| 2.635 | 1.427 6036 | 1427 | 81 47 44.37 | 29.43 | 2.685 | 1.434 5650 | 1358 | 82 11 40.28 | 28.01 |
| .636 | .427 7462 | 1426 | 81 48 13.79 | 29.41 | .686 | .434 7008 | 1357 | 82 12 08.28 | 27.99 |
| .637 | .427 8887 | 1424 | 81 48 43.18 | 29.38 | .687 | .434 8364 | 1355 | 82 12 36.25 | 27.96 |
| .638 | .428 0310 | 1423 | 81 49 12.55 | 29.35 | .688 | .434 9719 | 1354 | 82 13 04.19 | 27.93 |
| .639 | .428 1732 | 1421 | 81 49 41.88 | 29.32 | .689 | .435 1072 | 1353 | 82 13 32.11 | 27.90 |
| 2.640 | 1.428 3153 | 1420 | 81 50 11.18 | 29.29 | 2.690 | 1.435 2424 | 1351 | 82 13 59.99 | 27.87 |
| .641 | .428 4572 | 1419 | 81 50 40.46 | 29.26 | .691 | .435 3775 | 1350 | 82 14 27.86 | 27.85 |
| .642 | .428 5990 | 1417 | 81 51 09.70 | 29.23 | .692 | .435 5124 | 1349 | 82 14 55.69 | 27.82 |
| .643 | .428 7407 | 1416 | 81 51 38.92 | 29.20 | .693 | .435 6472 | 1347 | 82 15 23.49 | 27.79 |
| .644 | .428 8822 | 1414 | 81 52 08.11 | 29.17 | .694 | .435 7819 | 1346 | 82 15 51.27 | 27.77 |
| 2.645 | 1.429 0236 | 1413 | 81 52 37.27 | 29.14 | 2.695 | 1.435 9164 | 1345 | 82 16 19.02 | 27.74 |
| .646 | .429 1648 | 1412 | 81 53 06.40 | 29.12 | .696 | .436 0508 | 1343 | 82 16 46.75 | 27.71 |
| .647 | .429 3059 | 1410 | 81 53 35.50 | 29.09 | .697 | .436 1851 | 1342 | 82 17 14.44 | 27.68 |
| .648 | .429 4468 | 1409 | 81 54 04.57 | 29.06 | .698 | .436 3192 | 1341 | 82 17 42.11 | 27.65 |
| .649 | .429 5876 | 1407 | 81 54 33.62 | 29.03 | .699 | .436 4532 | 1339 | 82 18 09.75 | 27.63 |
| 2.650 | 1.429 7283 | 1406 | 81 55 02.63 | 29.00 | 2.700 | 1.436 5871 | 1338 | 82 18 37.36 | 27.60 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.700 | 1.436 5871 | 1338 | 82 18 37.36 | 27.60 | 2.750 | 1.443 1144 | 1273 | 82 41 03.70 | 26.26 |
| .701 | .436 7209 | 1337 | 82 19 04.95 | 27.57 | .751 | .443 2416 | 1272 | 82 41 29.95 | 26.24 |
| .702 | .436 8545 | 1335 | 82 19 32.51 | 27.54 | .752 | .443 3688 | 1271 | 82 41 56.18 | 26.21 |
| .703 | .436 9879 | 1334 | 82 20 00.04 | 27.52 | .753 | .443 4958 | 1270 | 82 42 22.38 | 26.19 |
| .704 | .437 1213 | 1333 | 82 20 27.54 | 27.49 | .754 | .443 6227 | 1268 | 82 42 48.55 | 26.16 |
| 2.705 | 1.437 2545 | 1331 | 82 20 55.02 | 27.46 | 2.755 | 1.443 7495 | 1267 | 82 43 14.70 | 26.14 |
| .706 | .437 3876 | 1330 | 82 21 22.47 | 27.44 | .756 | .443 8761 | 1266 | 82 43 40.82 | 26.11 |
| .707 | .437 5205 | 1329 | 82 21 49.89 | 27.41 | .757 | .444 0026 | 1265 | 82 44 06.92 | 26.08 |
| .708 | .437 6533 | 1327 | 82 22 17.29 | 27.38 | .758 | .444 1290 | 1263 | 82 44 32.99 | 26.06 |
| .709 | .437 7860 | 1326 | 82 22 44.66 | 27.35 | .759 | .444 2553 | 1262 | 82 44 59.03 | 26.03 |
| 2.710 | 1.437 9186 | 1325 | 82 23 12.00 | 27.33 | 2.760 | 1.444 3814 | 1261 | 82 45 25.05 | 26.01 |
| .711 | .438 0510 | 1324 | 82 23 39.31 | 27.30 | .761 | .444 5074 | 1260 | 82 45 51.04 | 25.98 |
| .712 | .438 1833 | 1322 | 82 24 06.60 | 27.27 | .762 | .444 6333 | 1258 | 82 46 17.01 | 25.95 |
| .713 | .438 3154 | 1321 | 82 24 33.86 | 27.25 | .763 | .444 7591 | 1257 | 82 46 42.95 | 25.93 |
| .714 | .438 4475 | 1320 | 82 25 01.09 | 27.22 | .764 | .444 8847 | 1256 | 82 47 08.87 | 25.90 |
| 2.715 | 1.438 5794 | 1318 | 82 25 28.29 | 27.19 | 2.765 | 1.445 0102 | 1255 | 82 47 34.76 | 25.88 |
| .716 | .438 7111 | 1317 | 82 25 55.47 | 27.17 | .766 | .445 1356 | 1253 | 82 48 00.62 | 25.85 |
| .717 | .438 8428 | 1316 | 82 26 22.63 | 27.14 | .767 | .445 2609 | 1252 | 82 48 26.46 | 25.83 |
| .718 | .438 9743 | 1314 | 82 26 49.75 | 27.11 | .768 | .445 3860 | 1251 | 82 48 52.27 | 25.80 |
| .719 | .439 1057 | 1313 | 82 27 16.85 | 27.08 | .769 | .445 5111 | 1250 | 82 49 18.06 | 25.77 |
| 2.720 | 1.439 2369 | 1312 | 82 27 43.92 | 27.06 | 2.770 | 1.445 6360 | 1248 | 82 49 43.82 | 25.75 |
| .721 | .439 3680 | 1310 | 82 28 10.96 | 27.03 | .771 | .445 7607 | 1247 | 82 50 09.56 | 25.72 |
| .722 | .439 4990 | 1309 | 82 28 37.98 | 27.00 | .772 | .445 8854 | 1246 | 82 50 35.27 | 25.70 |
| .723 | .439 6299 | 1308 | 82 29 04.97 | 26.98 | .773 | .446 0099 | 1245 | 82 51 00.95 | 25.67 |
| .724 | .439 7606 | 1307 | 82 29 31.94 | 26.95 | .774 | .446 1343 | 1243 | 82 51 26.61 | 25.65 |
| 2.725 | 1.439 8912 | 1305 | 82 29 58.87 | 26.92 | 2.775 | 1.446 2586 | 1242 | 82 51 52.25 | 25.62 |
| .726 | .440 0216 | 1304 | 82 30 25.79 | 26.90 | .776 | .446 3827 | 1241 | 82 52 17.86 | 25.60 |
| .727 | .440 1520 | 1303 | 82 30 52.67 | 26.87 | .777 | .446 5068 | 1240 | 82 52 43.44 | 25.57 |
| .728 | .440 2822 | 1301 | 82 31 19.53 | 26.84 | .778 | .446 6307 | 1238 | 82 53 09.00 | 25.55 |
| .729 | .440 4123 | 1300 | 82 31 46.36 | 26.82 | .779 | .446 7545 | 1237 | 82 53 34.53 | 25.52 |
| 2.730 | 1.440 5422 | 1299 | 82 32 13.16 | 26.79 | 2.780 | 1.446 8781 | 1236 | 82 54 00.04 | 25.49 |
| .731 | .440 6720 | 1298 | 82 32 39.94 | 26.76 | .781 | .447 0017 | 1235 | 82 54 25.52 | 25.47 |
| .732 | .440 8017 | 1296 | 82 33 06.69 | 26.74 | .782 | .447 1251 | 1234 | 82 54 50.98 | 25.44 |
| .733 | .440 9313 | 1295 | 82 33 33.42 | 26.71 | .783 | .447 2484 | 1232 | 82 55 16.41 | 25.42 |
| .734 | .441 0607 | 1294 | 82 34 00.11 | 26.68 | .784 | .447 3716 | 1231 | 82 55 41.81 | 25.39 |
| 2.735 | 1.441 1900 | 1292 | 82 34 26.78 | 26.66 | 2.785 | 1.447 4946 | 1230 | 82 56 07.19 | 25.37 |
| .736 | .441 3192 | 1291 | 82 34 53.43 | 26.63 | .786 | .447 6175 | 1229 | 82 56 32.55 | 25.34 |
| .737 | .441 4483 | 1290 | 82 35 20.05 | 26.61 | .787 | .447 7403 | 1227 | 82 56 57.88 | 25.32 |
| .738 | .441 5772 | 1289 | 82 35 46.64 | 26.58 | .788 | .447 8630 | 1226 | 82 57 23.19 | 25.29 |
| .739 | .441 7060 | 1287 | 82 36 13.21 | 26.55 | .789 | .447 9856 | 1225 | 82 57 48.47 | 25.27 |
| 2.740 | 1.441 8347 | 1286 | 82 36 39.75 | 26.53 | 2.790 | 1.448 1080 | 1224 | 82 58 13.72 | 25.24 |
| .741 | .441 9632 | 1285 | 82 37 06.26 | 26.50 | .791 | .448 2303 | 1223 | 82 58 38.95 | 25.22 |
| .742 | .442 0916 | 1283 | 82 37 32.75 | 26.47 | .792 | .448 3525 | 1221 | 82 59 04.16 | 25.19 |
| .743 | .442 2199 | 1282 | 82 37 59.21 | 26.45 | .793 | .448 4746 | 1220 | 82 59 29.34 | 25.17 |
| .744 | .442 3481 | 1281 | 82 38 25.64 | 26.42 | .794 | .448 5966 | 1219 | 82 59 54.49 | 25.14 |
| 2.745 | 1.442 4761 | 1280 | 82 38 52.05 | 26.40 | 2.795 | 1.448 7184 | 1218 | 83 00 19.62 | 25.12 |
| .746 | .442 6040 | 1278 | 82 39 18.43 | 26.37 | .796 | .448 8401 | 1217 | 83 00 44.73 | 25.09 |
| .747 | .442 7318 | 1277 | 82 39 44.79 | 26.34 | .797 | .448 9617 | 1215 | 83 01 09.81 | 25.07 |
| .748 | .442 8594 | 1276 | 82 40 11.12 | 26.32 | .798 | .449 0832 | 1214 | 83 01 34.86 | 25.04 |
| .749 | .442 9870 | 1275 | 82 40 37.42 | 26.29 | .799 | .449 2045 | 1213 | 83 01 59.90 | 25.02 |
| 2.750 | 1.443 1144 | 1273 | 82 41 03.70 | 26.26 | 2.800 | 1.449 3258 | 1212 | 83 02 24.90 | 24.99 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|-----------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 2.800 | 1.449 3258 | 1212 | 83 02 24.90 | 24.99 | 2.850 | 1.455 2365 | 1153 | 83 22 44.07 | 23.78 |
| .801 | .449 4469 | 1211 | 83 02 40.88 | 24.97 | .851 | .455 3517 | 1152 | 83 23 07.84 | 23.76 |
| .802 | .449 5679 | 1209 | 83 03 14.84 | 24.94 | .852 | .455 4068 | 1151 | 83 23 31.58 | 23.74 |
| .803 | .449 6888 | 1208 | 83 03 39.77 | 24.92 | .853 | .455 5819 | 1150 | 83 23 55.31 | 23.71 |
| .804 | .449 8095 | 1207 | 93 04 04.68 | 24.89 | .854 | .455 6968 | 1148 | 83 24 19.01 | 23.69 |
| 2.805 | 1.449 9301 | 1206 | 83 04 29.56 | 24.87 | 2.855 | 1.455 8115 | 1147 | 83 24 42.69 | 23.67 |
| .806 | .450 0507 | 1205 | 83 04 54.42 | 24.85 | .856 | .455 9262 | 1146 | 83 25 06.34 | 23.64 |
| .807 | .450 1710 | 1203 | 83 05 19.25 | 24.82 | .857 | .456 0408 | 1145 | 83 25 29.97 | 23.62 |
| .808 | .450 2913 | 1202 | 83 05 44.06 | 24.80 | .858 | .456 1552 | 1144 | 83 25 53.58 | 23.59 |
| .809 | .450 4115 | 1201 | 83 06 08.84 | 24.77 | .859 | .456 2696 | 1143 | 83 26 17.16 | 23.57 |
| 2.810 | 1.450 5315 | 1200 | 83 06 33.60 | 24.75 | 2.860 | 1.456 3838 | 1142 | 83 26 40.72 | 23.55 |
| .811 | .450 6514 | 1199 | 83 06 58.33 | 24.72 | .861 | .456 4979 | 1140 | 83 27 04.25 | 23.52 |
| .812 | .450 7712 | 1198 | 83 07 23.04 | 24.70 | .862 | .456 6119 | 1139 | 83 27 27.77 | 23.50 |
| .813 | .450 8909 | 1196 | 83 07 47.73 | 24.67 | .863 | .456 7258 | 1138 | 83 27 51.26 | 23.48 |
| .814 | .451 0105 | 1195 | 83 08 12.39 | 24.65 | .864 | .456 8395 | 1137 | 83 28 14.72 | 23.45 |
| 2.815 | 1.451 1299 | 1194 | 83 08 37.03 | 24.62 | 2.865 | 1.456 9532 | 1136 | 83 28 38.16 | 23.43 |
| .816 | .451 2492 | 1193 | 83 09 01.64 | 24.60 | .866 | .457 0667 | 1135 | 83 29 01.58 | 23.41 |
| .817 | .451 3684 | 1191 | 83 09 26.23 | 24.58 | .867 | .457 1801 | 1134 | 83 29 24.98 | 23.38 |
| .818 | .451 4875 | 1190 | 83 09 50.79 | 24.55 | .868 | .457 2935 | 1133 | 83 29 48.35 | 23.36 |
| .819 | .451 6065 | 1189 | 83 10 15.33 | 24.53 | .869 | .457 4067 | 1131 | 83 30 11.70 | 23.34 |
| 2.820 | 1.451 7253 | 1188 | 83 10 39.84 | 24.50 | 2.870 | 1.457 5198 | 1130 | 83 30 35.03 | 23.32 |
| .821 | .451 8441 | 1187 | 83 11 04.33 | 24.48 | .871 | .457 6327 | 1129 | 83 30 58.33 | 23.29 |
| .822 | .451 9627 | 1186 | 83 11 28.80 | 24.45 | .872 | .457 7456 | 1128 | 83 31 21.61 | 23.27 |
| .823 | .452 0812 | 1184 | 83 11 53.24 | 24.43 | .873 | .457 8584 | 1127 | 83 31 44.87 | 23.25 |
| .824 | .452 1995 | 1183 | 83 12 17.66 | 24.41 | .874 | .457 9710 | 1126 | 83 32 08.11 | 23.22 |
| 2.825 | 1.452 3178 | 1182 | 83 12 42.05 | 24.38 | 2.875 | 1.458 0835 | 1125 | 83 32 31.32 | 23.20 |
| .826 | .452 4359 | 1181 | 83 13 06.42 | 24.36 | .876 | .458 1959 | 1124 | 83 32 54.50 | 23.18 |
| .827 | .452 5540 | 1180 | 83 13 30.76 | 24.33 | .877 | .458 3083 | 1123 | 83 33 17.67 | 23.15 |
| .828 | .452 6719 | 1178 | 83 13 55.08 | 24.31 | .878 | .458 4204 | 1121 | 83 33 40.81 | 23.13 |
| .829 | .452 7897 | 1177 | 83 14 19.38 | 24.28 | .879 | .458 5325 | 1120 | 83 34 03.93 | 23.11 |
| 2.830 | 1.452 9073 | 1176 | 83 14 43.65 | 24.26 | 2.880 | 1.458 6445 | 1119 | 83 34 27.03 | 23.08 |
| .831 | .453 0249 | 1175 | 83 15 07.90 | 24.24 | .881 | .458 7564 | 1118 | 83 34 50.10 | 23.06 |
| .832 | .453 1423 | 1174 | 83 15 32.12 | 24.21 | .882 | .458 8681 | 1117 | 83 35 13.15 | 23.04 |
| .833 | .453 2597 | 1173 | 83 15 56.32 | 24.19 | .883 | .458 9798 | 1116 | 83 35 36.18 | 23.02 |
| .834 | .453 3769 | 1171 | 83 16 20.50 | 24.16 | .884 | .459 0913 | 1115 | 83 35 59.18 | 22.99 |
| 2.835 | 1.453 4940 | 1170 | 83 16 44.65 | 24.14 | 2.885 | 1.459 2027 | 1114 | 83 36 22.16 | 22.97 |
| .836 | .453 6109 | 1169 | 83 17 08.78 | 24.12 | .886 | .459 3140 | 1113 | 83 36 45.12 | 22.95 |
| .837 | .453 7278 | 1168 | 83 17 32.88 | 24.09 | .887 | .459 4252 | 1111 | 83 37 08.06 | 22.92 |
| .838 | .453 8445 | 1167 | 83 17 56.96 | 24.07 | .888 | .459 5363 | 1110 | 83 37 30.97 | 22.90 |
| .839 | .453 9612 | 1166 | 83 18 21.02 | 24.04 | .889 | .459 6473 | 1109 | 83 37 53.86 | 22.88 |
| 2.840 | 1.454 0777 | 1165 | 83 18 45.05 | 24.02 | 2.890 | 1.459 7581 | 1108 | 83 38 16.73 | 22.86 |
| .841 | .454 1941 | 1163 | 83 19 09.06 | 24.00 | .891 | .459 8689 | 1107 | 83 38 39.57 | 22.83 |
| .842 | .454 3104 | 1162 | 83 19 33.04 | 23.97 | .892 | .459 9795 | 1106 | 83 39 02.40 | 22.81 |
| .843 | .454 4265 | 1161 | 83 19 57.01 | 23.95 | .893 | .460 0901 | 1105 | 83 39 25.19 | 22.79 |
| .844 | .454 5426 | 1160 | 83 20 20.94 | 23.93 | .894 | .460 2005 | 1104 | 83 39 47.97 | 22.77 |
| 2.845 | 1.454 6585 | 1159 | 83 20 44.86 | 23.90 | 2.895 | 1.460 3108 | 1103 | 83 40 10.73 | 22.74 |
| .846 | .454 7743 | 1158 | 83 21 08.74 | 23.88 | .896 | .460 4210 | 1101 | 83 40 33.46 | 22.72 |
| .847 | .454 8900 | 1156 | 83 21 32.61 | 23.85 | .897 | .460 5311 | 1100 | 83 40 56.17 | 22.70 |
| .848 | .455 0056 | 1155 | 83 21 56.45 | 23.83 | .898 | .460 6411 | 1099 | 83 41 18.85 | 22.68 |
| .849 | .455 1211 | 1154 | 83 22 20.27 | 23.81 | .899 | .460 7510 | 1098 | 83 41 41.52 | 22.65 |
| 2.850 | 1.455 2365 | 1153 | 83 22 44.07 | 23.78 | 2.900 | 1.460 8607 | 1097 | 83 42 04.16 | 22.63 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|-------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|
| 2.900 | 1.460 8607 | 1097 | 83° 42' 04".16 | 22.63 | 2.950 | 1.466 2123 | 1044 | 84° 00' 28.00 | 21.50 |
| .901 | .460 9704 | 1096 | 83 42 26.78 | 22.61 | .951 | .466 3167 | 1043 | 84 00 49.53 | 21.51 |
| .902 | .461 0800 | 1095 | 83 42 49.37 | 22.59 | .952 | .466 4209 | 1042 | 84 01 11.03 | 21.46 |
| .903 | .461 1894 | 1094 | 83 43 11.95 | 22.56 | .953 | .466 5251 | 1041 | 84 01 32.51 | 21.47 |
| .904 | .461 2987 | 1093 | 83 43 34.50 | 22.54 | .954 | .466 6291 | 1040 | 84 01 53.97 | 21.45 |
| 2.905 | 1.461 4080 | 1092 | 83 43 57.03 | 22.52 | 2.955 | 1.466 7330 | 1039 | 84 02 15.40 | 21.43 |
| .906 | .461 5171 | 1091 | 83 44 19.54 | 22.50 | .956 | .466 8368 | 1038 | 84 02 36.82 | 21.40 |
| .907 | .461 6261 | 1090 | 83 44 42.02 | 22.47 | .957 | .466 9406 | 1037 | 84 02 58.21 | 21.36 |
| .908 | .461 7350 | 1088 | 83 45 04.48 | 22.45 | .958 | .467 0442 | 1036 | 84 03 19.58 | 21.36 |
| .909 | .461 8438 | 1087 | 83 45 26.92 | 22.43 | .959 | .467 1477 | 1035 | 84 03 40.93 | 21.34 |
| 2.910 | 1.461 9525 | 1086 | 83 45 49.34 | 22.41 | 2.960 | 1.467 2511 | 1034 | 84 04 02.27 | 21.34 |
| .911 | .462 0610 | 1085 | 83 46 11.73 | 22.38 | .961 | .467 3544 | 1033 | 84 04 23.57 | 21.30 |
| .912 | .462 1695 | 1084 | 83 46 34.11 | 22.36 | .962 | .467 4576 | 1032 | 84 04 44.86 | 21.28 |
| .913 | .462 2779 | 1083 | 83 46 56.46 | 22.34 | .963 | .467 5607 | 1031 | 84 05 06.13 | 21.26 |
| .914 | .462 3861 | 1082 | 83 47 18.79 | 22.32 | .964 | .467 6637 | 1029 | 84 05 27.37 | 21.23 |
| 2.915 | 1.462 4942 | 1081 | 83 47 41.09 | 22.30 | 2.965 | 1.467 7666 | 1028 | 84 05 48.60 | 21.21 |
| .916 | .462 6023 | 1080 | 83 48 03.38 | 22.27 | .966 | .467 8694 | 1027 | 84 06 09.80 | 21.16 |
| .917 | .462 7102 | 1079 | 83 48 25.64 | 22.25 | .967 | .467 9721 | 1026 | 84 06 30.98 | 21.17 |
| .918 | .462 8180 | 1078 | 83 48 47.88 | 22.23 | .968 | .468 0747 | 1025 | 84 06 52.14 | 21.15 |
| .919 | .462 9257 | 1077 | 83 49 10.10 | 22.21 | .969 | .468 1772 | 1024 | 84 07 13.29 | 21.13 |
| 2.920 | 1.463 0334 | 1076 | 83 49 32.29 | 22.18 | 2.970 | 1.468 2796 | 1023 | 84 07 34.40 | 21.11 |
| .921 | .463 1409 | 1074 | 83 49 54.47 | 22.16 | .971 | .468 3819 | 1022 | 84 07 55.50 | 21.06 |
| .922 | .463 2483 | 1073 | 83 50 16.62 | 22.14 | .972 | .468 4841 | 1021 | 84 08 16.58 | 21.07 |
| .923 | .463 3555 | 1072 | 83 50 38.75 | 22.12 | .973 | .468 5861 | 1020 | 84 08 37.64 | 21.05 |
| .924 | .463 4627 | 1071 | 83 51 00.86 | 22.10 | .974 | .468 6881 | 1019 | 84 08 58.67 | 21.02 |
| 2.925 | 1.463 5698 | 1070 | 83 51 22.94 | 22.07 | 2.975 | 1.468 7900 | 1018 | 84 09 19.69 | 21.00 |
| .926 | .463 6768 | 1069 | 83 51 45.00 | 22.05 | .976 | .468 8918 | 1017 | 84 09 40.68 | 20.96 |
| .927 | .463 7836 | 1068 | 83 52 07.05 | 22.03 | .977 | .468 9935 | 1016 | 84 10 01.65 | 20.96 |
| .928 | .463 8904 | 1067 | 83 52 29.07 | 22.01 | .978 | .469 0950 | 1015 | 84 10 22.60 | 20.94 |
| .929 | .463 9970 | 1066 | 83 52 51.06 | 21.99 | .979 | .469 1965 | 1014 | 84 10 43.53 | 20.92 |
| 2.930 | 1.464 1036 | 1065 | 83 53 13.04 | 21.97 | 2.980 | 1.469 2979 | 1013 | 84 11 04.44 | 20.90 |
| .931 | .464 2100 | 1064 | 83 53 35.99 | 21.94 | .981 | .469 3992 | 1012 | 84 11 25.33 | 20.88 |
| .932 | .464 3163 | 1063 | 83 53 58.93 | 21.92 | .982 | .469 5003 | 1011 | 84 11 46.20 | 20.86 |
| .933 | .464 4226 | 1062 | 83 54 18.84 | 21.90 | .983 | .469 6014 | 1010 | 84 12 07.05 | 20.84 |
| .934 | .464 5287 | 1061 | 83 54 40.73 | 21.88 | .984 | .469 7024 | 1009 | 84 12 27.88 | 20.82 |
| 2.935 | 1.464 6347 | 1060 | 83 55 02.59 | 21.86 | 2.985 | 1.469 8033 | 1008 | 84 12 48.68 | 20.80 |
| .936 | .464 7406 | 1059 | 83 55 24.44 | 21.83 | .986 | .469 9040 | 1007 | 84 13 09.47 | 20.78 |
| .937 | .464 8464 | 1058 | 83 55 46.26 | 21.81 | .987 | .470 0047 | 1006 | 84 13 30.23 | 20.75 |
| .938 | .464 9521 | 1056 | 83 56 08.07 | 21.79 | .988 | .470 1053 | 1005 | 84 13 50.98 | 20.73 |
| .939 | .465 0577 | 1055 | 83 56 29.85 | 21.77 | .989 | .470 2057 | 1004 | 84 14 11.70 | 20.71 |
| 2.940 | 1.465 1632 | 1054 | 83 56 51.60 | 21.75 | 2.990 | 1.470 3061 | 1003 | 84 14 32.40 | 20.69 |
| .941 | .465 2686 | 1053 | 83 57 13.34 | 21.73 | .991 | .470 4064 | 1002 | 84 14 53.09 | 20.67 |
| .942 | .465 3739 | 1052 | 83 57 35.06 | 21.70 | .992 | .470 5065 | 1001 | 84 15 13.75 | 20.65 |
| .943 | .465 4790 | 1051 | 83 57 56.75 | 21.68 | .993 | .470 6066 | 1000 | 84 15 34.39 | 20.63 |
| .944 | .465 5841 | 1050 | 83 58 18.42 | 21.66 | .994 | .470 7066 | 999 | 84 15 55.01 | 20.61 |
| 2.945 | 1.465 6891 | 1049 | 83 58 40.07 | 21.64 | 2.995 | 1.470 8065 | 998 | 84 16 15.61 | 20.59 |
| .946 | .465 7939 | 1048 | 83 59 01.70 | 21.62 | .996 | .470 9062 | 997 | 84 16 36.19 | 20.57 |
| .947 | .465 8987 | 1047 | 83 59 23.31 | 21.60 | .997 | .471 0059 | 996 | 84 16 56.75 | 20.55 |
| .948 | .466 0033 | 1046 | 83 59 44.90 | 21.58 | .998 | .471 1055 | 995 | 84 17 17.29 | 20.53 |
| .949 | .466 1079 | 1045 | 84 00 06.46 | 21.55 | .999 | .471 2050 | 994 | 84 17 37.81 | 20.51 |
| 2.950 | 1.466 2123 | 1044 | 84 00 28.00 | 21.53 | 3.000 | 1.471 3043 | 993 | 84 17 58.30 | 20.49 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 3.00 | 1.471 3043 | 9033 | 84° 17' 58".30 | 204.88 | 3.50 | 1.510 4199 | 6034 | 86° 32' 26".47 | 124.46 |
| .01 | .472 2927 | 9835 | 84 21 22.17 | 202.85 | .51 | .511 0203 | 5974 | 86 34 30.31 | 123.22 |
| .02 | .473 2713 | 9737 | 84 24 44.01 | 200.84 | .52 | .511 6147 | 5915 | 86 36 32.02 | 122.00 |
| .03 | .474 2401 | 9641 | 84 28 03.86 | 198.85 | .53 | .512 2033 | 5856 | 86 38 34.31 | 120.79 |
| .04 | .475 1994 | 9545 | 84 31 21.72 | 196.88 | .54 | .512 7859 | 5798 | 86 40 34.50 | 119.59 |
| 3.05 | 1.476 1492 | 9451 | 84 34 37.63 | 194.93 | 3.55 | 1.513 3628 | 5740 | 86 42 33.49 | 118.40 |
| .06 | .477 0896 | 9357 | 84 37 51.59 | 193.00 | .56 | .513 9340 | 5683 | 86 44 31.30 | 117.22 |
| .07 | .478 0206 | 9264 | 84 41 03.64 | 191.09 | .57 | .514 4995 | 5627 | 86 46 27.94 | 116.06 |
| .08 | .478 9425 | 9173 | 84 44 13.78 | 189.20 | .58 | .515 0594 | 5571 | 86 48 23.43 | 114.91 |
| .09 | .479 8551 | 9082 | 84 47 22.04 | 187.32 | .59 | .515 6137 | 5516 | 86 50 17.76 | 113.66 |
| 3.10 | 1.480 7588 | 8992 | 84 50 28.43 | 185.47 | 3.60 | 1.516 1625 | 5461 | 86 52 10.96 | 112.63 |
| .11 | .481 6535 | 8903 | 84 53 32.97 | 183.63 | .61 | .516 7058 | 5406 | 86 54 03.03 | 111.52 |
| .12 | .482 5393 | 8814 | 84 56 35.69 | 181.81 | .62 | .517 2438 | 5353 | 86 55 53.99 | 110.41 |
| .13 | .483 4164 | 8727 | 84 59 36.59 | 180.00 | .63 | .517 7764 | 5300 | 86 57 43.85 | 109.31 |
| .14 | .484 2847 | 8640 | 85 02 35.70 | 178.22 | .64 | .518 3037 | 5247 | 86 59 32.62 | 108.22 |
| 3.15 | 1.485 1445 | 8555 | 85 05 33.04 | 176.45 | 3.65 | 1.518 8258 | 5195 | 87 01 20.30 | 107.15 |
| .16 | .485 9957 | 8470 | 85 08 28.61 | 174.70 | .66 | .519 3427 | 5143 | 87 03 06.92 | 106.08 |
| .17 | .486 8385 | 8386 | 85 11 22.45 | 172.97 | .67 | .519 8544 | 5092 | 87 04 52.47 | 105.03 |
| .18 | .487 6729 | 8303 | 85 14 14.56 | 171.26 | .68 | .520 3611 | 5041 | 87 06 36.98 | 103.99 |
| .19 | .488 4991 | 8221 | 85 17 04.97 | 169.56 | .69 | .520 8627 | 4991 | 87 08 20.45 | 102.95 |
| 3.20 | 1.489 3170 | 8139 | 85 19 53.69 | 167.88 | 3.70 | 1.521 3593 | 4942 | 87 10 02.89 | 101.93 |
| .21 | .490 1269 | 8058 | 85 22 40.73 | 166.21 | .71 | .521 8511 | 4893 | 87 11 44.31 | 100.92 |
| .22 | .490 9287 | 7978 | 85 25 26.12 | 164.56 | .72 | .522 3379 | 4844 | 87 13 24.73 | 99.91 |
| .23 | .491 7226 | 7899 | 85 28 09.86 | 162.93 | .73 | .522 8199 | 4796 | 87 15 04.14 | 98.92 |
| .24 | .492 5085 | 7821 | 85 30 51.99 | 161.32 | .74 | .523 2971 | 4748 | 87 16 42.57 | 97.94 |
| 3.25 | 1.493 2867 | 7743 | 85 33 32.50 | 159.71 | 3.75 | 1.523 7695 | 4701 | 87 18 20.02 | 96.96 |
| .26 | .494 0572 | 7667 | 85 36 11.42 | 158.13 | .76 | .524 2373 | 4654 | 87 19 56.50 | 96.00 |
| .27 | .494 8200 | 7590 | 85 38 48.77 | 156.56 | .77 | .524 7004 | 4608 | 87 21 32.03 | 95.05 |
| .28 | .495 5753 | 7515 | 85 41 24.55 | 155.01 | .78 | .525 1589 | 4562 | 87 23 06.60 | 94.10 |
| .29 | .496 3231 | 7441 | 85 43 58.79 | 153.47 | .79 | .525 6128 | 4517 | 87 24 40.23 | 93.17 |
| 3.30 | 1.497 0634 | 7367 | 85 46 31.50 | 151.95 | 3.80 | 1.526 0622 | 4472 | 87 26 12.93 | 92.24 |
| .31 | .497 7964 | 7294 | 85 49 02.69 | 150.44 | .81 | .526 5072 | 4428 | 87 27 44.71 | 91.32 |
| .32 | .498 5221 | 7221 | 85 51 32.38 | 148.95 | .82 | .526 9478 | 4384 | 87 29 15.58 | 90.42 |
| .33 | .499 2407 | 7150 | 85 54 00.59 | 147.47 | .83 | .527 3839 | 4340 | 87 30 45.55 | 89.52 |
| .34 | .499 9521 | 7079 | 85 56 27.32 | 146.00 | .84 | .527 8157 | 4297 | 87 32 14.62 | 88.63 |
| 3.35 | 1.500 6564 | 7008 | 85 58 52.60 | 144.56 | 3.85 | 1.528 2433 | 4254 | 87 33 42.80 | 87.75 |
| .36 | .501 3537 | 6939 | 86 01 16.44 | 143.12 | .86 | .528 6666 | 4212 | 87 35 10.11 | 86.87 |
| .37 | .502 0441 | 6870 | 86 03 38.84 | 141.70 | .87 | .529 0856 | 4170 | 87 36 36.55 | 86.01 |
| .38 | .502 7277 | 6802 | 86 05 59.84 | 140.29 | .88 | .529 5005 | 4128 | 87 38 02.13 | 85.15 |
| .39 | .503 4045 | 6734 | 86 08 19.44 | 138.90 | .89 | .529 9113 | 4087 | 87 39 26.86 | 84.31 |
| 3.40 | 1.504 0746 | 6667 | 86 10 37.65 | 137.52 | 3.90 | 1.530 3180 | 4047 | 87 40 50.75 | 83.47 |
| .41 | .504 7380 | 6601 | 86 12 54.48 | 136.16 | .91 | .530 7207 | 4007 | 87 42 13.81 | 82.64 |
| .42 | .505 3948 | 6536 | 86 15 09.96 | 134.80 | .92 | .531 1193 | 3967 | 87 43 36.03 | 81.82 |
| .43 | .506 0451 | 6471 | 86 17 24.10 | 133.47 | .93 | .531 5140 | 3927 | 87 44 57.45 | 81.00 |
| .44 | .506 6889 | 6406 | 86 19 36.90 | 132.14 | .94 | .531 9048 | 3888 | 87 46 18.05 | 80.20 |
| 3.45 | 1.507 3264 | 6343 | 86 21 48.38 | 130.83 | 3.95 | 1.532 2917 | 3850 | 87 47 37.85 | 79.40 |
| .46 | .507 9575 | 6280 | 86 23 58.56 | 129.53 | .96 | .532 6747 | 3811 | 87 48 56.85 | 78.61 |
| .47 | .508 5823 | 6217 | 86 26 07.44 | 128.24 | .97 | .533 0539 | 3773 | 87 50 15.07 | 77.83 |
| .48 | .509 2010 | 6156 | 86 28 15.05 | 126.97 | .98 | .533 4294 | 3736 | 87 51 32.52 | 77.06 |
| .49 | .509 8135 | 6095 | 86 30 21.39 | 125.71 | .99 | .533 8011 | 3699 | 87 52 49.19 | 76.29 |
| 3.50 | 1.510 4199 | 6034 | 86 32 26.47 | 124.46 | 4.00 | 1.534 1691 | 3662 | 87 54 05.10 | 75.53 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|
| 4.00 | 1.534 1691 | 3662 | 87 54 05.10 | 75.53 | 4.50 | 1.548 5792 | 2222 | 88 43 37.40 | 45.82 |
| .01 | .534 5335 | 3626 | 87 55 20.26 | 74.78 | .51 | .548 8003 | 2199 | 88 44 22.99 | 45.37 |
| .02 | .534 8943 | 3590 | 87 56 34.67 | 74.04 | .52 | .549 0191 | 2178 | 88 45 08.13 | 44.92 |
| .03 | .535 2514 | 3554 | 87 57 48.33 | 73.30 | .53 | .549 2358 | 2156 | 88 45 52.82 | 44.47 |
| .04 | .535 6050 | 3518 | 87 59 01.27 | 72.57 | .54 | .549 4503 | 2134 | 88 46 37.07 | 44.03 |
| 4.05 | 1.535 9551 | 3483 | 88 00 13.48 | 71.85 | 4.55 | 1.549 6627 | 2113 | 88 47 20.88 | 43.59 |
| .06 | .536 3017 | 3449 | 88 01 24.97 | 71.14 | .56 | .549 8730 | 2092 | 88 48 04.25 | 43.15 |
| .07 | .536 6449 | 3415 | 88 02 35.76 | 70.43 | .57 | .550 0811 | 2071 | 88 48 47.19 | 42.73 |
| .08 | .536 9846 | 3381 | 88 03 45.83 | 69.73 | .58 | .550 2873 | 2051 | 88 49 29.70 | 42.30 |
| .09 | .537 3210 | 3347 | 88 04 55.22 | 69.03 | .59 | .550 4913 | 2030 | 88 50 11.79 | 41.88 |
| 4.10 | 1.537 6540 | 3314 | 88 06 03.91 | 68.35 | 4.60 | 1.550 6933 | 2010 | 88 50 53.46 | 41.46 |
| .11 | .537 9837 | 3281 | 88 07 11.91 | 67.67 | .61 | .550 8933 | 1990 | 88 51 34.72 | 41.05 |
| .12 | .538 3102 | 3248 | 88 08 19.25 | 67.00 | .62 | .551 0914 | 1970 | 88 52 15.56 | 40.64 |
| .13 | .538 6333 | 3216 | 88 09 25.91 | 66.33 | .63 | .551 2874 | 1951 | 88 52 56.00 | 40.24 |
| .14 | .538 9533 | 3184 | 88 10 31.91 | 65.67 | .64 | .551 4815 | 1931 | 88 53 36.04 | 39.84 |
| 4.15 | 1.539 2701 | 3152 | 88 11 37.25 | 65.02 | 4.65 | 1.551 6737 | 1912 | 88 54 15.68 | 39.44 |
| .16 | .539 5837 | 3121 | 88 12 41.94 | 64.37 | .66 | .551 8640 | 1893 | 88 54 54.92 | 39.05 |
| .17 | .539 8943 | 3090 | 88 13 45.99 | 63.73 | .67 | .552 0523 | 1874 | 88 55 33.77 | 38.66 |
| .18 | .540 2017 | 3059 | 88 14 49.40 | 63.10 | .68 | .552 2388 | 1856 | 88 56 12.24 | 38.28 |
| .19 | .540 5061 | 3029 | 88 15 52.19 | 62.47 | .69 | .552 4235 | 1837 | 88 56 50.33 | 37.89 |
| 4.20 | 1.540 8074 | 2998 | 88 16 54.34 | 61.85 | 4.70 | 1.552 6063 | 1819 | 88 57 28.03 | 37.52 |
| .21 | .541 1058 | 2969 | 88 17 55.88 | 61.23 | .71 | .552 7873 | 1801 | 88 58 05.36 | 37.14 |
| .22 | .541 4012 | 2939 | 88 18 56.81 | 60.62 | .72 | .552 9664 | 1783 | 88 58 42.32 | 36.77 |
| .23 | .541 6936 | 2910 | 88 19 57.13 | 60.02 | .73 | .553 1438 | 1765 | 88 59 18.91 | 36.41 |
| .24 | .541 9831 | 2881 | 88 20 56.85 | 59.42 | .74 | .553 3195 | 1748 | 88 59 55.14 | 36.05 |
| 4.25 | 1.542 2698 | 2852 | 88 21 55.08 | 58.83 | 4.75 | 1.553 4934 | 1730 | 89 00 31.01 | 35.69 |
| .26 | .542 5536 | 2824 | 88 22 54.52 | 58.25 | .76 | .553 6655 | 1713 | 89 01 06.52 | 35.33 |
| .27 | .542 8346 | 2796 | 88 23 52.48 | 57.67 | .77 | .553 8360 | 1696 | 89 01 41.68 | 34.98 |
| .28 | .543 1128 | 2768 | 88 24 49.86 | 57.09 | .78 | .554 0047 | 1679 | 89 02 16.48 | 34.63 |
| .29 | .543 3882 | 2741 | 88 25 46.67 | 56.53 | .79 | .554 1718 | 1662 | 89 02 50.94 | 34.29 |
| 4.30 | 1.543 6609 | 2713 | 88 26 42.91 | 55.96 | 4.80 | 1.554 3372 | 1646 | 89 03 25.06 | 33.95 |
| .31 | .543 9308 | 2686 | 88 27 38.60 | 55.41 | .81 | .554 5010 | 1630 | 89 03 58.84 | 33.61 |
| .32 | .544 1981 | 2660 | 88 28 33.73 | 54.86 | .82 | .554 6631 | 1613 | 89 04 32.28 | 33.28 |
| .33 | .544 4628 | 2633 | 88 29 28.31 | 54.31 | .83 | .554 8236 | 1597 | 89 05 05.39 | 32.94 |
| .34 | .544 7247 | 2607 | 88 30 22.35 | 53.77 | .84 | .554 9825 | 1581 | 89 05 38.17 | 32.62 |
| 4.35 | 1.544 9841 | 2581 | 88 31 15.85 | 53.24 | 4.85 | 1.555 1399 | 1566 | 89 06 10.63 | 32.29 |
| .36 | .545 2409 | 2555 | 88 32 08.82 | 52.71 | .86 | .555 2957 | 1550 | 89 06 42.76 | 31.97 |
| .37 | .545 4952 | 2530 | 88 33 01.27 | 52.18 | .87 | .555 4499 | 1535 | 89 07 14.57 | 31.65 |
| .38 | .545 7469 | 2505 | 88 33 53.19 | 51.66 | .88 | .555 6026 | 1519 | 89 07 46.07 | 31.34 |
| .39 | .545 9961 | 2480 | 88 34 44.59 | 51.15 | .89 | .555 7538 | 1504 | 89 08 17.25 | 31.03 |
| 4.40 | 1.546 2429 | 2455 | 88 35 35.49 | 50.64 | 4.90 | 1.555 9034 | 1489 | 89 08 48.12 | 30.72 |
| .41 | .546 4872 | 2431 | 88 36 25.88 | 50.14 | .91 | .556 0516 | 1474 | 89 09 18.69 | 30.41 |
| .42 | .546 7290 | 2407 | 88 37 15.76 | 49.64 | .92 | .556 1983 | 1460 | 89 09 48.95 | 30.11 |
| .43 | .546 9685 | 2383 | 88 38 05.15 | 49.14 | .93 | .556 3436 | 1445 | 89 10 18.91 | 29.81 |
| .44 | .547 2055 | 2359 | 88 38 54.05 | 48.65 | .94 | .556 4874 | 1431 | 89 10 48.57 | 29.51 |
| 4.45 | 1.547 4403 | 2335 | 88 39 42.46 | 48.17 | 4.95 | 1.556 6297 | 1417 | 89 11 17.93 | 29.22 |
| .46 | .547 6726 | 2312 | 88 40 30.40 | 47.69 | .96 | .556 7707 | 1403 | 89 11 47.01 | 28.93 |
| .47 | .547 9027 | 2289 | 88 41 17.85 | 47.22 | .97 | .556 9103 | 1389 | 89 12 15.79 | 28.64 |
| .48 | .548 1305 | 2266 | 88 42 04.83 | 46.75 | .98 | .557 0484 | 1375 | 89 12 44.29 | 28.36 |
| .49 | .548 3560 | 2244 | 88 42 51.35 | 46.28 | .99 | .557 1852 | 1361 | 89 13 12.51 | 28.07 |
| 4.50 | 1.548 5792 | 2222 | 88 43 37.40 | 45.82 | 5.00 | 1.557 3206 | 1348 | 89 13 40.44 | 27.79 |
| u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(eu) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(eu) - 90^\circ$ | $\omega \operatorname{sech} u$ |

The Gudermannian.

| u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ | u | gd u | $\omega F_0'$ | gd u | $\omega F_0'$ |
|------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|------|------------------------------------|--------------------------------|-------------------------------|--------------------------------|
| 5.00 | 1.557 3206 | 1348 | 89° 13' 40.44" | 27.79 | 5.50 | 1.562 6228 | 817 | 89° 31' 54.10" | 16.86 |
| .01 | .557 4547 | 1334 | 89 14 08.10 | 27.52 | .51 | .562 7042 | 809 | 89 32 10.87 | 16.69 |
| .02 | .557 5875 | 1321 | 89 14 35.48 | 27.24 | .52 | .562 7847 | 801 | 89 32 27.48 | 16.53 |
| .03 | .557 7189 | 1308 | 89 15 02.58 | 26.97 | .53 | .562 8644 | 793 | 89 32 43.92 | 16.36 |
| .04 | .557 8490 | 1295 | 89 15 29.42 | 26.71 | .54 | .562 9433 | 785 | 89 33 00.20 | 16.20 |
| 5.05 | 1.557 9778 | 1282 | 89 15 56.00 | 26.44 | 5.55 | 1.563 0215 | 777 | 89 33 16.32 | 16.04 |
| .06 | .558 1054 | 1269 | 89 16 22.30 | 26.18 | .56 | .563 0988 | 770 | 89 33 32.27 | 15.88 |
| .07 | .558 2317 | 1256 | 89 16 48.35 | 25.92 | .57 | .563 1754 | 762 | 89 33 48.07 | 15.72 |
| .08 | .558 3567 | 1244 | 89 17 14.14 | 25.66 | .58 | .563 2512 | 755 | 89 34 03.71 | 15.56 |
| .09 | .558 4804 | 1232 | 89 17 39.67 | 25.40 | .59 | .563 3263 | 747 | 89 34 19.20 | 15.41 |
| 5.10 | 1.558 6030 | 1219 | 89 18 04.94 | 25.15 | 5.60 | 1.563 4006 | 740 | 89 34 34.53 | 15.25 |
| .11 | .558 7243 | 1207 | 89 18 29.97 | 24.90 | .61 | .563 4742 | 732 | 89 34 49.71 | 15.10 |
| .12 | .558 8444 | 1195 | 89 18 54.74 | 24.65 | .62 | .563 5471 | 725 | 89 35 04.73 | 14.95 |
| .13 | .558 9633 | 1183 | 89 19 19.27 | 24.41 | .63 | .563 6192 | 718 | 89 35 19.61 | 14.80 |
| .14 | .559 0811 | 1172 | 89 19 43.56 | 24.16 | .64 | .563 6906 | 711 | 89 35 34.34 | 14.66 |
| 5.15 | 1.559 1976 | 1160 | 89 20 07.60 | 23.92 | 5.65 | 1.563 7613 | 703 | 89 35 48.93 | 14.51 |
| .16 | .559 3131 | 1148 | 89 20 31.40 | 23.69 | .66 | .563 8313 | 697 | 89 36 03.36 | 14.37 |
| .17 | .559 4273 | 1137 | 89 20 54.97 | 23.45 | .67 | .563 9006 | 690 | 89 36 17.66 | 14.22 |
| .18 | .559 5404 | 1126 | 89 21 18.31 | 23.22 | .68 | .563 9692 | 683 | 89 36 31.81 | 14.08 |
| .19 | .559 6524 | 1114 | 89 21 41.41 | 22.99 | .69 | .564 0372 | 676 | 89 36 45.82 | 13.94 |
| 5.20 | 1.559 7633 | 1103 | 89 22 04.28 | 22.76 | 5.70 | 1.564 1044 | 669 | 89 36 59.70 | 13.80 |
| .21 | .559 8731 | 1092 | 89 22 26.92 | 22.53 | .71 | .564 1710 | 663 | 89 37 13.43 | 13.67 |
| .22 | .559 9818 | 1081 | 89 22 49.34 | 22.31 | .72 | .564 2369 | 656 | 89 37 27.03 | 13.53 |
| .23 | .560 0894 | 1071 | 89 23 11.53 | 22.08 | .73 | .564 3022 | 649 | 89 37 40.49 | 13.40 |
| .24 | .560 1959 | 1060 | 89 23 33.51 | 21.86 | .74 | .564 3668 | 643 | 89 37 53.82 | 13.26 |
| 5.25 | 1.560 3014 | 1049 | 89 23 55.26 | 21.65 | 5.75 | 1.564 4308 | 637 | 89 38 07.01 | 13.13 |
| .26 | .560 4058 | 1039 | 89 24 16.80 | 21.43 | .76 | .564 4941 | 630 | 89 38 20.08 | 13.00 |
| .27 | .560 5092 | 1029 | 89 24 38.13 | 21.22 | .77 | .564 5568 | 624 | 89 38 33.01 | 12.87 |
| .28 | .560 6116 | 1018 | 89 24 59.24 | 21.01 | .78 | .564 6189 | 618 | 89 38 45.82 | 12.74 |
| .29 | .560 7129 | 1008 | 89 25 20.14 | 20.80 | .79 | .564 6804 | 612 | 89 38 58.50 | 12.61 |
| 5.30 | 1.560 8132 | 998 | 89 25 40.84 | 20.59 | 5.80 | 1.564 7412 | 606 | 89 39 11.05 | 12.49 |
| .31 | .560 9126 | 988 | 89 26 01.33 | 20.39 | .81 | .564 8015 | 599 | 89 39 23.48 | 12.37 |
| .32 | .561 0109 | 979 | 89 26 21.61 | 20.18 | .82 | .564 8611 | 594 | 89 39 35.78 | 12.24 |
| .33 | .561 1083 | 969 | 89 26 41.69 | 19.98 | .83 | .564 9202 | 588 | 89 39 47.96 | 12.12 |
| .34 | .561 2047 | 959 | 89 27 01.58 | 19.78 | .84 | .564 9787 | 582 | 89 40 00.02 | 12.00 |
| 5.35 | 1.561 3001 | 950 | 89 27 21.26 | 19.59 | 5.85 | 1.565 0365 | 576 | 89 40 11.96 | 11.88 |
| .36 | .561 3946 | 940 | 89 27 40.75 | 19.39 | .86 | .565 0939 | 570 | 89 40 23.78 | 11.76 |
| .37 | .561 4881 | 931 | 89 28 00.05 | 19.20 | .87 | .565 1506 | 565 | 89 40 35.48 | 11.65 |
| .38 | .561 5807 | 922 | 89 28 19.15 | 19.01 | .88 | .565 2068 | 559 | 89 40 47.07 | 11.53 |
| .39 | .561 6724 | 912 | 89 28 38.06 | 18.82 | .89 | .565 2624 | 553 | 89 40 58.54 | 11.41 |
| 5.40 | 1.561 7632 | 903 | 89 28 56.79 | 18.63 | 5.90 | 1.565 3175 | 548 | 89 41 09.90 | 11.30 |
| .41 | .561 8531 | 894 | 89 29 15.33 | 18.45 | .91 | .565 3720 | 542 | 89 41 21.15 | 11.19 |
| .42 | .561 9421 | 885 | 89 29 33.68 | 18.26 | .92 | .565 4259 | 537 | 89 41 32.28 | 11.08 |
| .43 | .562 0302 | 877 | 89 29 51.85 | 18.08 | .93 | .565 4794 | 532 | 89 41 43.30 | 10.97 |
| .44 | .562 1174 | 868 | 89 30 09.85 | 17.90 | .94 | .565 5323 | 526 | 89 41 54.21 | 10.86 |
| 5.45 | 1.562 2038 | 859 | 89 30 27.66 | 17.72 | 5.95 | 1.565 5847 | 521 | 89 42 05.02 | 10.75 |
| .46 | .562 2893 | 851 | 89 30 45.29 | 17.55 | .96 | .565 6365 | 516 | 89 42 15.71 | 10.64 |
| .47 | .562 3739 | 842 | 89 31 02.75 | 17.37 | .97 | .565 6879 | 511 | 89 42 26.30 | 10.54 |
| .48 | .562 4577 | 834 | 89 31 20.04 | 17.20 | .98 | .565 7387 | 506 | 89 42 36.79 | 10.43 |
| .49 | .562 5407 | 826 | 89 31 37.15 | 17.03 | .99 | .565 7890 | 501 | 89 42 47.17 | 10.33 |
| 5.50 | 1.562 6228 | 817 | 89 31 54.10 | 16.86 | 6.00 | 1.565 8388 | 496 | 89 42 57.44 | 10.23 |
| u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ | u | $2 \tan^{-1}(e^u) - \frac{\pi}{2}$ | $\omega \operatorname{sech} u$ | $2 \tan^{-1}(e^u) - 90^\circ$ | $\omega \operatorname{sech} u$ |

TABLE VII

THE ANTI-GUDERMANNIAN

m expressed in minutes in terms of the Gudermannian,

$gd\ u$ expressed in degrees and minutes.

1 minute = 0.000 2908 8821 radians,

$$0.000\ 2908\ 8821\ m = \log_e \tan \left(\frac{1}{4} \pi + \frac{1}{2} gd\ u \right) = u \text{ radians.}$$

In this table the second decimal place is sometimes erroneous by a unit.

The Anti-Gudermannian.

| gd u | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | gd u |
|------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| 0 | 0.00 | 60.00 | 120.02 | 180.08 | 240.19 | 300.38 | 360.66 | 421.05 | 481.57 | 542.23 | 603.07 | 0 |
| 1 | 1.00 | 61.00 | 121.02 | 181.08 | 241.20 | 301.38 | 361.66 | 422.06 | 482.58 | 543.25 | 604.08 | 1 |
| 2 | 2.00 | 62.00 | 122.03 | 182.08 | 242.20 | 302.39 | 362.67 | 423.06 | 483.59 | 544.26 | 605.10 | 2 |
| 3 | 3.00 | 63.00 | 123.03 | 183.09 | 243.20 | 303.39 | 363.67 | 424.07 | 484.60 | 545.27 | 606.12 | 3 |
| 4 | 4.00 | 64.00 | 124.03 | 184.09 | 244.20 | 304.40 | 364.68 | 425.08 | 485.61 | 546.28 | 607.13 | 4 |
| 5 | 5.00 | 65.00 | 125.03 | 185.09 | 245.21 | 305.40 | 365.69 | 426.09 | 486.62 | 547.30 | 608.15 | 5 |
| 6 | 6.00 | 66.00 | 126.03 | 186.09 | 246.21 | 306.40 | 366.69 | 427.09 | 487.63 | 548.31 | 609.16 | 6 |
| 7 | 7.00 | 67.00 | 127.03 | 187.09 | 247.21 | 307.41 | 367.70 | 428.10 | 488.64 | 549.32 | 610.18 | 7 |
| 8 | 8.00 | 68.00 | 128.03 | 188.09 | 248.21 | 308.41 | 368.70 | 429.11 | 489.65 | 550.34 | 611.19 | 8 |
| 9 | 9.00 | 69.00 | 129.03 | 189.09 | 249.22 | 309.42 | 369.71 | 430.12 | 490.66 | 551.35 | 612.21 | 9 |
| 10 | 10.00 | 70.00 | 130.03 | 190.10 | 250.22 | 310.42 | 370.72 | 431.13 | 491.67 | 552.36 | 613.23 | 10 |
| 11 | 11.00 | 71.00 | 131.03 | 191.10 | 251.22 | 311.42 | 371.72 | 432.13 | 492.68 | 553.37 | 614.24 | 11 |
| 12 | 12.00 | 72.00 | 132.03 | 192.10 | 252.23 | 312.43 | 372.73 | 433.14 | 493.69 | 554.39 | 615.26 | 12 |
| 13 | 13.00 | 73.00 | 133.03 | 193.10 | 253.23 | 313.43 | 373.74 | 434.15 | 494.70 | 555.40 | 616.27 | 13 |
| 14 | 14.00 | 74.01 | 134.03 | 194.10 | 254.23 | 314.44 | 374.74 | 435.16 | 495.71 | 556.41 | 617.29 | 14 |
| 15 | 15.00 | 75.01 | 135.03 | 195.10 | 255.23 | 315.44 | 375.75 | 436.17 | 496.72 | 557.43 | 618.31 | 15 |
| 16 | 16.00 | 76.01 | 136.03 | 196.11 | 256.24 | 316.45 | 376.75 | 437.17 | 497.73 | 558.44 | 619.32 | 16 |
| 17 | 17.00 | 77.01 | 137.04 | 197.11 | 257.24 | 317.45 | 377.76 | 438.18 | 498.74 | 559.45 | 620.34 | 17 |
| 18 | 18.00 | 78.01 | 138.04 | 198.11 | 258.24 | 318.45 | 378.76 | 439.19 | 499.75 | 560.47 | 621.36 | 18 |
| 19 | 19.00 | 79.01 | 139.04 | 199.11 | 259.25 | 319.46 | 379.77 | 440.20 | 500.76 | 561.48 | 622.37 | 19 |
| 20 | 20.00 | 80.01 | 140.04 | 200.11 | 260.25 | 320.46 | 380.78 | 441.21 | 501.77 | 562.49 | 623.39 | 20 |
| 21 | 21.00 | 81.01 | 141.04 | 201.11 | 261.25 | 321.47 | 381.78 | 442.21 | 502.78 | 563.51 | 624.40 | 21 |
| 22 | 22.00 | 82.01 | 142.04 | 202.12 | 262.25 | 322.47 | 382.79 | 443.22 | 503.79 | 564.52 | 625.42 | 22 |
| 23 | 23.00 | 83.01 | 143.04 | 203.12 | 263.26 | 323.48 | 383.79 | 444.23 | 504.80 | 565.53 | 626.44 | 23 |
| 24 | 24.00 | 84.01 | 144.04 | 204.12 | 264.26 | 324.48 | 384.80 | 445.24 | 505.81 | 566.55 | 627.45 | 24 |
| 25 | 25.00 | 85.01 | 145.04 | 205.12 | 265.26 | 325.48 | 385.81 | 446.25 | 506.83 | 567.56 | 628.47 | 25 |
| 26 | 26.00 | 86.01 | 146.04 | 206.12 | 266.27 | 326.49 | 386.81 | 447.26 | 507.84 | 568.57 | 629.49 | 26 |
| 27 | 27.00 | 87.01 | 147.04 | 207.13 | 267.27 | 327.49 | 387.82 | 448.26 | 508.85 | 569.59 | 630.50 | 27 |
| 28 | 28.00 | 88.01 | 148.05 | 208.13 | 268.27 | 328.50 | 388.83 | 449.27 | 509.86 | 570.60 | 631.52 | 28 |
| 29 | 29.00 | 89.01 | 149.05 | 209.13 | 269.27 | 329.50 | 389.83 | 450.28 | 510.87 | 571.62 | 632.54 | 29 |
| 30 | 30.00 | 90.01 | 150.05 | 210.13 | 270.28 | 330.51 | 390.84 | 451.29 | 511.88 | 572.63 | 633.56 | 30 |
| 31 | 31.00 | 91.01 | 151.05 | 211.13 | 271.28 | 331.51 | 391.85 | 452.30 | 512.89 | 573.64 | 634.57 | 31 |
| 32 | 32.00 | 92.01 | 152.05 | 212.13 | 272.28 | 332.52 | 392.85 | 453.31 | 513.90 | 574.66 | 635.59 | 32 |
| 33 | 33.00 | 93.01 | 153.05 | 213.14 | 273.29 | 333.52 | 393.86 | 454.32 | 514.91 | 575.67 | 636.61 | 33 |
| 34 | 34.00 | 94.01 | 154.05 | 214.14 | 274.29 | 334.53 | 394.85 | 455.33 | 515.93 | 576.69 | 637.62 | 34 |
| 35 | 35.00 | 95.01 | 155.05 | 215.14 | 275.29 | 335.53 | 395.87 | 456.33 | 516.94 | 577.70 | 638.64 | 35 |
| 36 | 36.00 | 96.01 | 156.05 | 216.14 | 276.30 | 336.54 | 396.88 | 457.34 | 517.95 | 578.71 | 639.66 | 36 |
| 37 | 37.00 | 97.01 | 157.05 | 217.14 | 277.30 | 337.54 | 397.88 | 458.35 | 518.96 | 579.73 | 640.68 | 37 |
| 38 | 38.00 | 98.01 | 158.06 | 218.15 | 278.30 | 338.55 | 398.89 | 459.36 | 519.97 | 580.74 | 641.69 | 38 |
| 39 | 39.00 | 99.01 | 159.06 | 219.15 | 279.31 | 339.55 | 399.90 | 460.37 | 520.98 | 581.76 | 642.71 | 39 |
| 40 | 40.00 | 100.01 | 160.06 | 220.15 | 280.31 | 340.56 | 400.91 | 461.38 | 521.99 | 582.77 | 643.73 | 40 |
| 41 | 41.00 | 101.01 | 161.06 | 221.15 | 281.31 | 341.56 | 401.91 | 462.39 | 523.01 | 583.79 | 644.75 | 41 |
| 42 | 42.00 | 102.01 | 162.06 | 222.15 | 282.32 | 342.57 | 402.92 | 463.40 | 524.02 | 584.80 | 645.76 | 42 |
| 43 | 43.00 | 103.02 | 163.06 | 223.16 | 283.32 | 343.57 | 403.93 | 464.41 | 525.03 | 585.81 | 646.78 | 43 |
| 44 | 44.00 | 104.02 | 164.06 | 224.16 | 284.32 | 344.58 | 404.93 | 465.41 | 526.04 | 586.83 | 647.80 | 44 |
| 45 | 45.00 | 105.02 | 165.06 | 225.16 | 285.33 | 345.58 | 405.94 | 466.42 | 527.05 | 587.84 | 648.82 | 45 |
| 46 | 46.00 | 106.02 | 166.06 | 226.16 | 286.33 | 346.59 | 406.95 | 467.43 | 528.06 | 588.86 | 649.84 | 46 |
| 47 | 47.00 | 107.02 | 167.07 | 227.16 | 287.33 | 347.59 | 407.95 | 468.44 | 529.08 | 589.87 | 650.85 | 47 |
| 48 | 48.00 | 108.02 | 168.07 | 228.17 | 288.34 | 348.60 | 408.96 | 469.45 | 530.09 | 590.89 | 651.87 | 48 |
| 49 | 49.00 | 109.02 | 169.07 | 229.17 | 289.34 | 349.60 | 409.97 | 470.46 | 531.10 | 591.90 | 652.89 | 49 |
| 50 | 50.00 | 110.02 | 170.07 | 230.17 | 290.34 | 350.61 | 410.97 | 471.47 | 532.11 | 592.92 | 653.91 | 50 |
| 51 | 51.00 | 111.02 | 171.07 | 231.17 | 291.35 | 351.61 | 411.98 | 472.48 | 533.12 | 593.93 | 654.93 | 51 |
| 52 | 52.00 | 112.02 | 172.07 | 232.18 | 292.35 | 352.62 | 412.99 | 473.49 | 534.14 | 594.95 | 655.94 | 52 |
| 53 | 53.00 | 113.02 | 173.07 | 233.18 | 293.35 | 353.62 | 414.00 | 474.50 | 535.15 | 595.96 | 656.96 | 53 |
| 54 | 54.00 | 114.02 | 174.07 | 234.18 | 294.36 | 354.63 | 415.00 | 475.51 | 536.16 | 596.98 | 657.98 | 54 |
| 55 | 55.00 | 115.02 | 175.07 | 235.18 | 295.36 | 355.63 | 416.01 | 476.52 | 537.17 | 597.99 | 659.00 | 55 |
| 56 | 56.00 | 116.02 | 176.08 | 236.18 | 296.37 | 356.64 | 417.02 | 477.53 | 538.18 | 599.01 | 660.02 | 56 |
| 57 | 57.00 | 117.02 | 177.08 | 237.19 | 297.37 | 357.64 | 418.03 | 478.54 | 539.20 | 600.02 | 661.04 | 57 |
| 58 | 58.00 | 118.02 | 178.08 | 238.19 | 298.37 | 358.65 | 419.03 | 479.55 | 540.21 | 601.04 | 662.05 | 58 |
| 59 | 59.00 | 119.02 | 179.08 | 239.19 | 299.38 | 359.65 | 420.04 | 480.56 | 541.22 | 602.05 | 663.07 | 59 |
| 60 | 60.00 | 120.02 | 180.08 | 240.19 | 300.38 | 360.66 | 421.05 | 481.57 | 542.23 | 603.07 | 664.09 | 60 |

The Anti-Gudermannian.

| gd u | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° | 20° | gd u |
|------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|------|
| 0 | 664.09 | 725.32 | 786.78 | 848.49 | 910.49 | 972.73 | 1035.30 | 1098.22 | 1161.49 | 1225.14 | 0 |
| 1 | 665.11 | 726.34 | 787.81 | 849.52 | 911.50 | 973.77 | 1036.35 | 1099.27 | 1162.54 | 1226.20 | 1 |
| 2 | 666.13 | 727.37 | 788.83 | 850.55 | 912.53 | 974.81 | 1037.40 | 1100.32 | 1163.60 | 1227.27 | 2 |
| 3 | 667.15 | 728.39 | 789.85 | 851.58 | 913.57 | 975.85 | 1038.44 | 1101.37 | 1164.66 | 1228.33 | 3 |
| 4 | 668.17 | 729.41 | 790.89 | 852.61 | 914.60 | 976.89 | 1039.49 | 1102.42 | 1165.72 | 1229.40 | 4 |
| 5 | 669.19 | 730.43 | 791.91 | 853.64 | 915.64 | 977.93 | 1040.53 | 1103.47 | 1166.78 | 1230.46 | 5 |
| 6 | 670.21 | 731.46 | 792.94 | 854.67 | 916.67 | 978.97 | 1041.58 | 1104.53 | 1167.83 | 1231.53 | 6 |
| 7 | 671.22 | 732.48 | 793.97 | 855.70 | 917.71 | 980.01 | 1042.63 | 1105.58 | 1168.89 | 1232.59 | 7 |
| 8 | 672.24 | 733.50 | 794.99 | 856.73 | 918.75 | 981.05 | 1043.67 | 1106.63 | 1169.95 | 1233.66 | 8 |
| 9 | 673.26 | 734.53 | 796.02 | 857.76 | 919.78 | 982.09 | 1044.72 | 1107.68 | 1171.01 | 1234.72 | 9 |
| 10 | 674.28 | 735.55 | 797.04 | 858.80 | 920.82 | 983.13 | 1045.77 | 1108.74 | 1172.07 | 1235.79 | 10 |
| 11 | 675.30 | 736.57 | 798.07 | 859.83 | 921.85 | 984.17 | 1046.81 | 1109.79 | 1173.13 | 1236.85 | 11 |
| 12 | 676.32 | 737.59 | 799.10 | 860.85 | 922.89 | 985.22 | 1047.85 | 1110.84 | 1174.19 | 1237.92 | 12 |
| 13 | 677.34 | 738.62 | 800.13 | 861.89 | 923.93 | 986.26 | 1048.91 | 1111.89 | 1175.24 | 1238.98 | 13 |
| 14 | 678.36 | 739.64 | 801.15 | 862.92 | 924.96 | 987.30 | 1049.95 | 1112.95 | 1176.30 | 1240.05 | 14 |
| 15 | 679.38 | 740.66 | 802.18 | 863.95 | 925.00 | 988.34 | 1051.00 | 1114.00 | 1177.35 | 1241.11 | 15 |
| 16 | 680.40 | 741.69 | 803.21 | 864.98 | 927.03 | 989.38 | 1052.05 | 1115.05 | 1178.42 | 1242.18 | 16 |
| 17 | 681.42 | 742.71 | 804.24 | 866.02 | 928.07 | 990.42 | 1053.09 | 1116.11 | 1179.48 | 1243.25 | 17 |
| 18 | 682.44 | 743.73 | 805.26 | 867.05 | 929.11 | 991.47 | 1054.14 | 1117.16 | 1180.54 | 1244.31 | 18 |
| 19 | 683.46 | 744.76 | 806.29 | 868.08 | 930.15 | 992.51 | 1055.19 | 1118.21 | 1181.60 | 1245.38 | 19 |
| 20 | 684.48 | 745.78 | 807.32 | 869.11 | 931.18 | 993.55 | 1056.24 | 1119.27 | 1182.66 | 1246.44 | 20 |
| 21 | 685.50 | 746.81 | 808.35 | 870.14 | 932.22 | 994.59 | 1057.28 | 1120.32 | 1183.72 | 1247.51 | 21 |
| 22 | 685.52 | 747.83 | 809.37 | 871.18 | 933.25 | 995.63 | 1058.33 | 1121.37 | 1184.78 | 1248.58 | 22 |
| 23 | 687.54 | 748.85 | 810.40 | 872.21 | 934.29 | 996.68 | 1059.38 | 1122.43 | 1185.84 | 1249.64 | 23 |
| 24 | 688.56 | 749.88 | 811.43 | 873.24 | 935.33 | 997.72 | 1060.43 | 1123.48 | 1186.90 | 1250.71 | 24 |
| 25 | 689.58 | 750.90 | 812.46 | 874.27 | 936.37 | 998.76 | 1061.48 | 1124.53 | 1187.96 | 1251.78 | 25 |
| 26 | 690.60 | 751.92 | 813.49 | 875.31 | 937.40 | 999.80 | 1062.52 | 1125.59 | 1189.02 | 1252.85 | 26 |
| 27 | 691.62 | 752.95 | 814.52 | 876.34 | 938.44 | 1000.85 | 1063.57 | 1126.64 | 1190.08 | 1253.91 | 27 |
| 28 | 692.64 | 753.97 | 815.54 | 877.37 | 939.48 | 1001.89 | 1064.62 | 1127.70 | 1191.14 | 1254.98 | 28 |
| 29 | 693.66 | 755.00 | 816.57 | 878.40 | 940.52 | 1002.93 | 1065.67 | 1128.75 | 1192.20 | 1256.05 | 29 |
| 30 | 694.68 | 756.02 | 817.60 | 879.44 | 941.56 | 1003.97 | 1066.72 | 1129.81 | 1193.25 | 1257.12 | 30 |
| 31 | 695.70 | 757.05 | 818.63 | 880.47 | 942.59 | 1005.02 | 1067.77 | 1130.86 | 1194.32 | 1258.18 | 31 |
| 32 | 696.72 | 758.07 | 819.65 | 881.50 | 943.63 | 1006.06 | 1068.81 | 1131.92 | 1195.39 | 1259.25 | 32 |
| 33 | 697.74 | 759.09 | 820.69 | 882.54 | 944.67 | 1007.10 | 1069.86 | 1132.97 | 1196.45 | 1260.32 | 33 |
| 34 | 698.76 | 760.12 | 821.71 | 883.57 | 945.71 | 1008.15 | 1070.91 | 1134.03 | 1197.51 | 1261.39 | 34 |
| 35 | 699.78 | 761.14 | 822.74 | 884.60 | 946.74 | 1009.19 | 1071.96 | 1135.08 | 1198.57 | 1262.45 | 35 |
| 36 | 700.80 | 762.17 | 823.77 | 885.64 | 947.78 | 1010.23 | 1073.01 | 1136.14 | 1199.63 | 1263.52 | 36 |
| 37 | 701.82 | 763.19 | 824.80 | 886.67 | 948.82 | 1011.28 | 1074.06 | 1137.19 | 1200.69 | 1264.59 | 37 |
| 38 | 702.85 | 764.22 | 825.83 | 887.70 | 949.85 | 1012.32 | 1075.11 | 1138.25 | 1201.75 | 1265.66 | 38 |
| 39 | 703.87 | 765.24 | 826.85 | 888.74 | 950.90 | 1013.36 | 1076.16 | 1139.30 | 1202.82 | 1266.73 | 39 |
| 40 | 704.89 | 766.27 | 827.89 | 889.77 | 951.94 | 1014.41 | 1077.21 | 1140.36 | 1203.88 | 1267.80 | 40 |
| 41 | 705.91 | 767.29 | 828.92 | 890.80 | 952.98 | 1015.45 | 1078.26 | 1141.41 | 1204.94 | 1268.87 | 41 |
| 42 | 706.93 | 768.32 | 829.95 | 891.84 | 954.01 | 1016.50 | 1079.31 | 1142.47 | 1206.00 | 1269.93 | 42 |
| 43 | 707.95 | 769.34 | 830.98 | 892.87 | 955.05 | 1017.54 | 1080.36 | 1143.52 | 1207.06 | 1271.00 | 43 |
| 44 | 708.97 | 770.37 | 832.00 | 893.91 | 956.09 | 1018.58 | 1081.41 | 1144.58 | 1208.13 | 1272.07 | 44 |
| 45 | 709.99 | 771.39 | 833.03 | 894.94 | 957.13 | 1019.63 | 1082.46 | 1145.64 | 1209.19 | 1273.14 | 45 |
| 46 | 711.02 | 772.42 | 834.06 | 895.97 | 958.17 | 1020.67 | 1083.51 | 1146.69 | 1210.25 | 1274.21 | 46 |
| 47 | 712.04 | 773.44 | 835.09 | 897.01 | 959.21 | 1021.72 | 1084.56 | 1147.75 | 1211.31 | 1275.28 | 47 |
| 48 | 713.06 | 774.47 | 836.12 | 898.04 | 960.25 | 1022.76 | 1085.61 | 1148.80 | 1212.38 | 1276.35 | 48 |
| 49 | 714.08 | 775.49 | 837.15 | 899.08 | 961.29 | 1023.81 | 1086.66 | 1149.86 | 1213.44 | 1277.42 | 49 |
| 50 | 715.10 | 776.52 | 838.18 | 900.11 | 962.33 | 1024.85 | 1087.71 | 1150.92 | 1214.50 | 1278.49 | 50 |
| 51 | 716.12 | 777.54 | 839.21 | 901.15 | 963.37 | 1025.90 | 1088.76 | 1151.97 | 1215.57 | 1279.56 | 51 |
| 52 | 717.15 | 778.57 | 840.24 | 902.18 | 964.41 | 1026.94 | 1089.81 | 1153.03 | 1216.63 | 1280.63 | 52 |
| 53 | 718.17 | 779.59 | 841.27 | 903.22 | 965.45 | 1027.99 | 1090.86 | 1154.09 | 1217.69 | 1281.70 | 53 |
| 54 | 719.19 | 780.62 | 842.30 | 904.25 | 966.49 | 1029.03 | 1091.91 | 1155.14 | 1218.76 | 1282.77 | 54 |
| 55 | 720.21 | 781.65 | 843.33 | 905.28 | 967.53 | 1030.08 | 1092.96 | 1156.20 | 1219.82 | 1283.84 | 55 |
| 56 | 721.23 | 782.67 | 844.36 | 906.32 | 968.57 | 1031.12 | 1094.01 | 1157.26 | 1220.88 | 1284.91 | 56 |
| 57 | 722.26 | 783.70 | 845.39 | 907.35 | 969.61 | 1032.17 | 1095.06 | 1158.32 | 1221.95 | 1285.98 | 57 |
| 58 | 723.28 | 784.73 | 846.42 | 908.39 | 970.65 | 1033.21 | 1096.11 | 1159.37 | 1223.01 | 1287.05 | 58 |
| 59 | 724.30 | 785.75 | 847.45 | 909.43 | 971.69 | 1034.26 | 1097.16 | 1160.43 | 1224.07 | 1288.13 | 59 |
| 60 | 725.32 | 786.78 | 848.49 | 910.46 | 972.73 | 1035.30 | 1098.22 | 1161.49 | 1225.14 | 1289.20 | 60 |

The Anti-Gudermannian.

| gd u | 21° | 22° | 23° | 24° | 25° | 26° | 27° | 28° | 29° | 30° | gd u |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 0 | 1289.20 | 1353.69 | 1418.63 | 1484.06 | 1549.99 | 1616.47 | 1683.52 | 1751.16 | 1819.44 | 1888.38 | 0 |
| 1 | 1290.27 | 1354.76 | 1419.72 | 1485.15 | 1551.10 | 1617.58 | 1684.64 | 1752.29 | 1820.58 | 1889.53 | 1 |
| 2 | 1291.34 | 1355.84 | 1420.80 | 1486.25 | 1552.20 | 1618.70 | 1685.76 | 1753.43 | 1821.72 | 1890.69 | 2 |
| 3 | 1292.41 | 1356.92 | 1421.89 | 1487.34 | 1553.31 | 1619.81 | 1686.88 | 1754.56 | 1822.87 | 1891.84 | 3 |
| 4 | 1293.48 | 1358.00 | 1422.98 | 1488.44 | 1554.41 | 1620.92 | 1688.01 | 1755.69 | 1824.01 | 1893.00 | 4 |
| 5 | 1294.55 | 1359.08 | 1424.06 | 1489.53 | 1555.51 | 1622.04 | 1689.13 | 1756.83 | 1825.16 | 1894.15 | 5 |
| 6 | 1295.63 | 1360.16 | 1425.15 | 1490.63 | 1556.62 | 1623.15 | 1690.25 | 1757.96 | 1826.30 | 1895.31 | 6 |
| 7 | 1296.70 | 1361.24 | 1426.24 | 1491.72 | 1557.72 | 1624.26 | 1691.38 | 1759.09 | 1827.44 | 1896.46 | 7 |
| 8 | 1297.77 | 1362.32 | 1427.32 | 1492.82 | 1558.83 | 1625.38 | 1692.50 | 1760.23 | 1828.59 | 1897.62 | 8 |
| 9 | 1298.84 | 1363.40 | 1428.41 | 1493.91 | 1559.93 | 1626.49 | 1693.62 | 1761.36 | 1829.73 | 1898.78 | 9 |
| 10 | 1299.91 | 1364.48 | 1429.50 | 1495.01 | 1561.04 | 1627.61 | 1694.75 | 1762.50 | 1830.88 | 1899.93 | 10 |
| 11 | 1300.99 | 1365.56 | 1430.59 | 1496.11 | 1562.14 | 1628.72 | 1695.87 | 1763.63 | 1832.02 | 1901.09 | 11 |
| 12 | 1302.06 | 1366.64 | 1431.68 | 1497.20 | 1563.25 | 1629.84 | 1697.00 | 1764.77 | 1833.17 | 1902.25 | 12 |
| 13 | 1303.13 | 1367.72 | 1432.76 | 1498.30 | 1564.35 | 1630.95 | 1698.12 | 1765.90 | 1834.32 | 1903.40 | 13 |
| 14 | 1304.20 | 1368.80 | 1433.85 | 1499.40 | 1565.46 | 1632.06 | 1699.25 | 1767.04 | 1835.46 | 1904.56 | 14 |
| 15 | 1305.28 | 1369.88 | 1434.94 | 1500.49 | 1566.56 | 1633.18 | 1700.37 | 1768.17 | 1836.61 | 1905.72 | 15 |
| 16 | 1306.35 | 1370.96 | 1436.03 | 1501.59 | 1567.67 | 1634.29 | 1701.50 | 1769.31 | 1837.75 | 1906.88 | 16 |
| 17 | 1307.42 | 1372.04 | 1437.12 | 1502.69 | 1568.77 | 1635.41 | 1702.62 | 1770.44 | 1838.90 | 1908.03 | 17 |
| 18 | 1308.50 | 1373.12 | 1438.21 | 1503.78 | 1569.88 | 1636.52 | 1703.75 | 1771.58 | 1840.05 | 1909.19 | 18 |
| 19 | 1309.57 | 1374.20 | 1439.29 | 1504.88 | 1570.99 | 1637.64 | 1704.87 | 1772.71 | 1841.19 | 1910.35 | 19 |
| 20 | 1310.64 | 1375.28 | 1440.38 | 1505.98 | 1572.09 | 1638.76 | 1706.00 | 1773.85 | 1842.34 | 1911.51 | 20 |
| 21 | 1311.72 | 1376.36 | 1441.47 | 1507.08 | 1573.20 | 1639.87 | 1707.12 | 1774.98 | 1843.49 | 1912.67 | 21 |
| 22 | 1312.79 | 1377.44 | 1442.56 | 1508.17 | 1574.31 | 1640.99 | 1708.25 | 1776.12 | 1844.64 | 1913.83 | 22 |
| 23 | 1313.86 | 1378.52 | 1443.65 | 1509.27 | 1575.41 | 1642.10 | 1709.37 | 1777.26 | 1845.78 | 1914.98 | 23 |
| 24 | 1314.94 | 1379.61 | 1444.74 | 1510.37 | 1576.52 | 1643.22 | 1710.50 | 1778.39 | 1846.93 | 1916.14 | 24 |
| 25 | 1316.01 | 1380.69 | 1445.83 | 1511.47 | 1577.63 | 1644.34 | 1711.63 | 1779.53 | 1848.08 | 1917.30 | 25 |
| 26 | 1317.08 | 1381.77 | 1446.92 | 1512.57 | 1578.73 | 1645.45 | 1712.75 | 1780.67 | 1849.23 | 1918.46 | 26 |
| 27 | 1318.16 | 1382.85 | 1448.01 | 1513.67 | 1579.84 | 1646.57 | 1713.88 | 1781.81 | 1850.37 | 1919.62 | 27 |
| 28 | 1319.23 | 1383.93 | 1449.10 | 1514.76 | 1580.95 | 1647.69 | 1715.01 | 1782.94 | 1851.52 | 1920.78 | 28 |
| 29 | 1320.31 | 1385.02 | 1450.19 | 1515.86 | 1582.06 | 1648.80 | 1716.14 | 1784.08 | 1852.67 | 1921.94 | 29 |
| 30 | 1321.38 | 1386.10 | 1451.28 | 1516.96 | 1583.17 | 1649.92 | 1717.26 | 1785.22 | 1853.82 | 1923.10 | 30 |
| 31 | 1322.45 | 1387.18 | 1452.37 | 1518.06 | 1584.27 | 1651.04 | 1718.39 | 1786.36 | 1854.97 | 1924.26 | 31 |
| 32 | 1323.53 | 1388.26 | 1453.46 | 1519.16 | 1585.38 | 1652.16 | 1719.52 | 1787.50 | 1856.12 | 1925.43 | 32 |
| 33 | 1324.60 | 1389.35 | 1454.55 | 1520.26 | 1586.49 | 1653.27 | 1720.65 | 1788.63 | 1857.27 | 1926.59 | 33 |
| 34 | 1325.68 | 1390.43 | 1455.64 | 1521.36 | 1587.60 | 1654.39 | 1721.77 | 1789.77 | 1858.42 | 1927.75 | 34 |
| 35 | 1326.75 | 1391.51 | 1456.73 | 1522.46 | 1588.71 | 1655.51 | 1722.90 | 1790.91 | 1859.57 | 1928.91 | 35 |
| 36 | 1327.83 | 1392.59 | 1457.83 | 1523.56 | 1589.82 | 1656.63 | 1724.03 | 1792.05 | 1860.72 | 1930.07 | 36 |
| 37 | 1328.90 | 1393.68 | 1458.92 | 1524.66 | 1590.92 | 1657.75 | 1725.16 | 1793.19 | 1861.87 | 1931.23 | 37 |
| 38 | 1329.98 | 1394.76 | 1460.01 | 1525.76 | 1592.03 | 1658.87 | 1726.29 | 1794.33 | 1863.02 | 1932.40 | 38 |
| 39 | 1331.06 | 1395.84 | 1461.10 | 1526.86 | 1593.14 | 1659.98 | 1727.42 | 1795.47 | 1864.17 | 1933.56 | 39 |
| 40 | 1332.13 | 1396.93 | 1462.19 | 1527.96 | 1594.25 | 1661.10 | 1728.54 | 1796.61 | 1865.32 | 1934.72 | 40 |
| 41 | 1333.21 | 1398.01 | 1463.28 | 1529.06 | 1595.36 | 1662.22 | 1729.67 | 1797.75 | 1866.47 | 1935.88 | 41 |
| 42 | 1334.29 | 1399.10 | 1464.38 | 1530.16 | 1596.47 | 1663.34 | 1730.80 | 1798.89 | 1867.62 | 1937.05 | 42 |
| 43 | 1335.37 | 1400.18 | 1465.47 | 1531.26 | 1597.58 | 1664.46 | 1731.93 | 1800.03 | 1868.77 | 1938.21 | 43 |
| 44 | 1336.44 | 1401.26 | 1466.56 | 1532.36 | 1598.69 | 1665.58 | 1733.06 | 1801.17 | 1869.92 | 1939.37 | 44 |
| 45 | 1337.52 | 1402.35 | 1467.65 | 1533.46 | 1599.80 | 1666.70 | 1734.19 | 1802.31 | 1871.08 | 1940.54 | 45 |
| 46 | 1338.60 | 1403.43 | 1468.75 | 1534.56 | 1600.91 | 1667.82 | 1735.32 | 1803.45 | 1872.23 | 1941.70 | 46 |
| 47 | 1339.67 | 1404.52 | 1469.84 | 1535.66 | 1602.02 | 1668.94 | 1736.45 | 1804.59 | 1873.38 | 1942.86 | 47 |
| 48 | 1340.75 | 1405.60 | 1470.93 | 1536.77 | 1603.13 | 1670.06 | 1737.58 | 1805.73 | 1874.53 | 1944.03 | 48 |
| 49 | 1341.83 | 1406.69 | 1472.02 | 1537.87 | 1604.24 | 1671.18 | 1738.71 | 1806.87 | 1875.69 | 1945.19 | 49 |
| 50 | 1342.91 | 1407.77 | 1473.12 | 1538.97 | 1605.35 | 1672.30 | 1739.84 | 1808.01 | 1876.84 | 1946.36 | 50 |
| 51 | 1343.98 | 1408.86 | 1474.21 | 1540.07 | 1606.46 | 1673.42 | 1740.98 | 1809.15 | 1877.99 | 1947.52 | 51 |
| 52 | 1345.06 | 1409.94 | 1475.30 | 1541.17 | 1607.58 | 1674.54 | 1742.11 | 1810.30 | 1879.14 | 1948.69 | 52 |
| 53 | 1346.14 | 1411.03 | 1476.40 | 1542.27 | 1608.69 | 1675.66 | 1743.24 | 1811.44 | 1880.30 | 1949.85 | 53 |
| 54 | 1347.22 | 1412.11 | 1477.49 | 1543.38 | 1609.80 | 1676.79 | 1744.37 | 1812.58 | 1881.45 | 1951.02 | 54 |
| 55 | 1348.29 | 1413.20 | 1478.59 | 1544.48 | 1610.91 | 1677.91 | 1745.50 | 1813.72 | 1882.60 | 1952.18 | 55 |
| 56 | 1349.37 | 1414.28 | 1479.68 | 1545.58 | 1612.02 | 1679.03 | 1746.63 | 1814.86 | 1883.76 | 1953.35 | 56 |
| 57 | 1350.45 | 1415.37 | 1480.77 | 1546.69 | 1613.13 | 1680.15 | 1747.76 | 1816.01 | 1884.91 | 1954.51 | 57 |
| 58 | 1351.53 | 1416.46 | 1481.87 | 1547.79 | 1614.25 | 1681.27 | 1748.90 | 1817.15 | 1886.07 | 1955.68 | 58 |
| 59 | 1352.61 | 1417.54 | 1482.96 | 1548.89 | 1615.36 | 1682.39 | 1750.03 | 1818.29 | 1887.22 | 1956.85 | 59 |
| 60 | 1353.69 | 1418.63 | 1484.06 | 1549.99 | 1616.47 | 1683.52 | 1751.16 | 1819.44 | 1888.38 | 1958.01 | 60 |

The Anti-Gudermannian.

| gd u | 31° | 32° | 33° | 34° | 35° | 36° | 37° | 38° | 39° | 40° | gd u |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 0 | 1958.01 | 2028.38 | 2099.53 | 2171.48 | 2244.29 | 2317.99 | 2392.63 | 2468.26 | 2544.93 | 2622.69 | 0 |
| 1 | 1959.18 | 2029.56 | 2100.72 | 2172.69 | 2245.51 | 2319.22 | 2393.88 | 2469.53 | 2546.22 | 2624.00 | 1 |
| 2 | 1960.35 | 2030.74 | 2101.91 | 2173.89 | 2246.73 | 2320.46 | 2395.14 | 2470.80 | 2547.50 | 2625.30 | 2 |
| 3 | 1961.51 | 2031.92 | 2103.10 | 2175.10 | 2247.95 | 2321.70 | 2396.39 | 2472.07 | 2548.79 | 2626.61 | 3 |
| 4 | 1962.68 | 2033.10 | 2104.30 | 2176.31 | 2249.17 | 2322.93 | 2397.64 | 2473.34 | 2550.08 | 2627.91 | 4 |
| 5 | 1963.85 | 2034.28 | 2105.49 | 2177.51 | 2250.39 | 2324.17 | 2398.90 | 2474.61 | 2551.37 | 2629.22 | 5 |
| 6 | 1965.02 | 2035.46 | 2106.68 | 2178.72 | 2251.62 | 2325.41 | 2400.15 | 2475.88 | 2552.66 | 2630.53 | 6 |
| 7 | 1966.18 | 2036.64 | 2107.88 | 2179.93 | 2252.84 | 2326.65 | 2401.40 | 2477.15 | 2553.95 | 2631.84 | 7 |
| 8 | 1967.35 | 2037.82 | 2109.07 | 2181.14 | 2254.06 | 2327.89 | 2402.66 | 2478.42 | 2555.23 | 2633.14 | 8 |
| 9 | 1968.52 | 2039.00 | 2110.27 | 2182.35 | 2255.28 | 2329.12 | 2403.91 | 2479.69 | 2556.52 | 2634.45 | 9 |
| 10 | 1969.69 | 2040.19 | 2111.46 | 2183.55 | 2256.51 | 2330.36 | 2405.17 | 2480.97 | 2557.81 | 2635.76 | 10 |
| 11 | 1970.86 | 2041.37 | 2112.66 | 2184.76 | 2257.73 | 2331.60 | 2406.42 | 2482.24 | 2559.10 | 2637.07 | 11 |
| 12 | 1972.03 | 2042.55 | 2113.85 | 2185.97 | 2258.95 | 2332.84 | 2407.68 | 2483.51 | 2560.39 | 2638.38 | 12 |
| 13 | 1973.20 | 2043.73 | 2115.05 | 2187.18 | 2260.18 | 2334.08 | 2408.93 | 2484.78 | 2561.68 | 2639.69 | 13 |
| 14 | 1974.37 | 2044.91 | 2116.24 | 2188.39 | 2261.40 | 2335.32 | 2410.19 | 2486.06 | 2562.97 | 2641.00 | 14 |
| 15 | 1975.54 | 2046.10 | 2117.44 | 2189.60 | 2262.63 | 2336.56 | 2411.44 | 2487.33 | 2564.27 | 2642.31 | 15 |
| 16 | 1976.71 | 2047.28 | 2118.63 | 2190.81 | 2263.85 | 2337.80 | 2412.70 | 2488.60 | 2565.56 | 2643.62 | 16 |
| 17 | 1977.88 | 2048.46 | 2119.83 | 2192.02 | 2265.08 | 2339.04 | 2413.96 | 2489.88 | 2566.85 | 2644.93 | 17 |
| 18 | 1979.05 | 2049.64 | 2121.03 | 2193.23 | 2266.30 | 2340.28 | 2415.21 | 2491.15 | 2568.14 | 2646.24 | 18 |
| 19 | 1980.22 | 2050.83 | 2122.22 | 2194.44 | 2267.53 | 2341.52 | 2416.47 | 2492.43 | 2569.43 | 2647.55 | 19 |
| 20 | 1981.39 | 2052.01 | 2123.42 | 2195.65 | 2268.75 | 2342.76 | 2417.73 | 2493.70 | 2570.73 | 2648.86 | 20 |
| 21 | 1982.56 | 2053.19 | 2124.62 | 2196.86 | 2269.98 | 2344.00 | 2418.99 | 2494.97 | 2572.02 | 2650.17 | 21 |
| 22 | 1983.73 | 2054.38 | 2125.81 | 2198.07 | 2271.20 | 2345.25 | 2420.24 | 2496.25 | 2573.31 | 2651.49 | 22 |
| 23 | 1984.90 | 2055.56 | 2127.01 | 2199.29 | 2272.43 | 2346.49 | 2421.50 | 2497.52 | 2574.61 | 2652.80 | 23 |
| 24 | 1986.07 | 2056.75 | 2128.21 | 2200.50 | 2273.66 | 2347.73 | 2422.76 | 2498.80 | 2575.90 | 2654.11 | 24 |
| 25 | 1987.24 | 2057.93 | 2129.41 | 2201.71 | 2274.88 | 2348.97 | 2424.02 | 2500.08 | 2577.19 | 2655.43 | 25 |
| 26 | 1988.41 | 2059.11 | 2130.61 | 2202.92 | 2276.11 | 2350.21 | 2425.28 | 2501.35 | 2578.49 | 2656.74 | 26 |
| 27 | 1989.59 | 2060.30 | 2131.80 | 2204.14 | 2277.34 | 2351.46 | 2426.54 | 2502.63 | 2579.78 | 2658.05 | 27 |
| 28 | 1990.76 | 2061.49 | 2133.00 | 2205.35 | 2278.57 | 2352.70 | 2427.80 | 2503.91 | 2581.08 | 2659.37 | 28 |
| 29 | 1991.93 | 2062.67 | 2134.20 | 2206.56 | 2279.79 | 2353.95 | 2429.06 | 2505.18 | 2582.37 | 2660.68 | 29 |
| 30 | 1993.10 | 2063.86 | 2135.40 | 2207.78 | 2281.02 | 2355.19 | 2430.32 | 2506.46 | 2583.67 | 2662.00 | 30 |
| 31 | 1994.28 | 2065.04 | 2136.60 | 2208.99 | 2282.25 | 2356.43 | 2431.58 | 2507.74 | 2584.97 | 2663.31 | 31 |
| 32 | 1995.45 | 2066.23 | 2137.80 | 2210.20 | 2283.48 | 2357.68 | 2432.84 | 2509.02 | 2586.26 | 2664.63 | 32 |
| 33 | 1996.62 | 2067.41 | 2139.00 | 2211.42 | 2284.71 | 2358.92 | 2434.10 | 2510.30 | 2587.56 | 2665.94 | 33 |
| 34 | 1997.80 | 2068.60 | 2140.20 | 2212.63 | 2285.94 | 2360.17 | 2435.36 | 2511.58 | 2588.86 | 2667.26 | 34 |
| 35 | 1998.97 | 2069.79 | 2141.40 | 2213.84 | 2287.17 | 2361.41 | 2436.62 | 2512.86 | 2590.15 | 2668.58 | 35 |
| 36 | 2000.14 | 2070.97 | 2142.60 | 2215.06 | 2288.40 | 2362.66 | 2437.89 | 2514.14 | 2591.45 | 2669.89 | 36 |
| 37 | 2001.32 | 2072.16 | 2143.80 | 2216.27 | 2289.63 | 2363.90 | 2439.15 | 2515.41 | 2592.75 | 2671.21 | 37 |
| 38 | 2002.49 | 2073.35 | 2145.00 | 2217.49 | 2290.86 | 2365.15 | 2440.41 | 2516.69 | 2594.05 | 2672.53 | 38 |
| 39 | 2003.67 | 2074.54 | 2146.20 | 2218.70 | 2292.09 | 2366.40 | 2441.68 | 2517.97 | 2595.35 | 2673.85 | 39 |
| 40 | 2004.84 | 2075.72 | 2147.40 | 2219.92 | 2293.32 | 2367.64 | 2442.94 | 2519.25 | 2596.65 | 2675.16 | 40 |
| 41 | 2006.02 | 2076.91 | 2148.61 | 2221.14 | 2294.55 | 2368.89 | 2444.20 | 2520.54 | 2597.95 | 2676.48 | 41 |
| 42 | 2007.19 | 2078.10 | 2149.81 | 2222.35 | 2295.78 | 2370.14 | 2445.47 | 2521.82 | 2599.24 | 2677.80 | 42 |
| 43 | 2008.37 | 2079.29 | 2151.01 | 2223.57 | 2297.01 | 2371.38 | 2446.73 | 2523.10 | 2600.54 | 2679.12 | 43 |
| 44 | 2009.54 | 2080.48 | 2152.21 | 2224.79 | 2298.24 | 2372.63 | 2447.99 | 2524.38 | 2601.84 | 2680.44 | 44 |
| 45 | 2010.72 | 2081.67 | 2153.41 | 2226.00 | 2299.48 | 2373.88 | 2449.26 | 2525.66 | 2603.14 | 2681.76 | 45 |
| 46 | 2011.90 | 2082.86 | 2154.62 | 2227.22 | 2300.71 | 2375.13 | 2450.52 | 2526.95 | 2604.45 | 2683.08 | 46 |
| 47 | 2013.07 | 2084.04 | 2155.82 | 2228.44 | 2301.94 | 2376.38 | 2451.79 | 2528.23 | 2605.75 | 2684.40 | 47 |
| 48 | 2014.25 | 2085.23 | 2157.02 | 2229.66 | 2303.17 | 2377.63 | 2453.05 | 2529.51 | 2607.05 | 2685.72 | 48 |
| 49 | 2015.43 | 2086.42 | 2158.23 | 2230.87 | 2304.41 | 2378.87 | 2454.32 | 2530.79 | 2608.35 | 2687.04 | 49 |
| 50 | 2016.60 | 2087.61 | 2159.43 | 2232.09 | 2305.64 | 2380.12 | 2455.58 | 2532.08 | 2609.65 | 2688.36 | 50 |
| 51 | 2017.78 | 2088.80 | 2160.63 | 2233.31 | 2306.88 | 2381.37 | 2456.85 | 2533.36 | 2610.95 | 2689.69 | 51 |
| 52 | 2018.96 | 2089.99 | 2161.84 | 2234.53 | 2308.11 | 2382.62 | 2458.12 | 2534.65 | 2612.26 | 2691.01 | 52 |
| 53 | 2020.13 | 2091.19 | 2163.04 | 2235.75 | 2309.34 | 2383.87 | 2459.39 | 2535.93 | 2613.56 | 2692.33 | 53 |
| 54 | 2021.31 | 2092.38 | 2164.25 | 2236.97 | 2310.58 | 2385.12 | 2460.65 | 2537.22 | 2614.86 | 2693.65 | 54 |
| 55 | 2022.49 | 2093.57 | 2165.45 | 2238.19 | 2311.81 | 2386.37 | 2461.92 | 2538.50 | 2616.17 | 2694.98 | 55 |
| 56 | 2023.67 | 2094.76 | 2166.66 | 2239.41 | 2313.05 | 2387.62 | 2463.19 | 2539.79 | 2617.47 | 2696.30 | 56 |
| 57 | 2024.85 | 2095.95 | 2167.86 | 2240.63 | 2314.28 | 2388.88 | 2464.46 | 2541.07 | 2618.78 | 2697.63 | 57 |
| 58 | 2026.03 | 2097.14 | 2169.07 | 2241.85 | 2315.52 | 2390.13 | 2465.72 | 2542.36 | 2620.08 | 2698.95 | 58 |
| 59 | 2027.20 | 2098.33 | 2170.28 | 2243.07 | 2316.75 | 2391.38 | 2466.99 | 2543.64 | 2621.38 | 2700.27 | 59 |
| 60 | 2028.38 | 2099.53 | 2171.48 | 2244.29 | 2317.99 | 2392.63 | 2468.26 | 2544.93 | 2622.69 | 2701.60 | 60 |

The Anti-Gudermannian.

| gd u | 41° | 42° | 43° | 44° | 45° | 46° | 47° | 48° | 49° | 50° | gd u |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 0 | 2701.60 | 2781.71 | 2863.10 | 2945.81 | 3029.94 | 3115.55 | 3202.71 | 3291.53 | 3382.08 | 3474.47 | 0 |
| 1 | 2702.92 | 2783.06 | 2864.46 | 2947.21 | 3031.35 | 3116.99 | 3204.18 | 3293.02 | 3383.61 | 3476.03 | 1 |
| 2 | 2704.25 | 2784.40 | 2865.83 | 2948.60 | 3032.77 | 3118.43 | 3205.65 | 3294.52 | 3385.13 | 3477.59 | 2 |
| 3 | 2705.57 | 2785.75 | 2867.20 | 2949.99 | 3034.18 | 3119.87 | 3207.12 | 3296.01 | 3386.66 | 3479.14 | 3 |
| 4 | 2706.90 | 2787.09 | 2868.57 | 2951.38 | 3035.60 | 3121.31 | 3208.58 | 3297.51 | 3388.18 | 3480.70 | 4 |
| 5 | 2708.23 | 2788.44 | 2869.94 | 2952.77 | 3037.02 | 3122.75 | 3210.05 | 3299.01 | 3389.71 | 3482.26 | 5 |
| 6 | 2709.55 | 2789.79 | 2871.31 | 2954.16 | 3038.43 | 3124.19 | 3211.52 | 3300.51 | 3391.24 | 3483.82 | 6 |
| 7 | 2710.88 | 2791.14 | 2872.68 | 2955.56 | 3039.85 | 3125.63 | 3212.99 | 3302.00 | 3392.77 | 3485.38 | 7 |
| 8 | 2712.21 | 2792.49 | 2874.05 | 2956.95 | 3041.27 | 3127.08 | 3214.46 | 3303.50 | 3394.29 | 3486.94 | 8 |
| 9 | 2713.54 | 2793.84 | 2875.42 | 2958.34 | 3042.68 | 3128.52 | 3215.93 | 3305.00 | 3395.82 | 3488.50 | 9 |
| 10 | 2714.86 | 2795.19 | 2876.79 | 2959.74 | 3044.10 | 3129.96 | 3217.40 | 3306.50 | 3397.35 | 3490.06 | 10 |
| 11 | 2716.19 | 2796.54 | 2878.16 | 2961.13 | 3045.52 | 3131.41 | 3218.87 | 3308.00 | 3398.88 | 3491.62 | 11 |
| 12 | 2717.52 | 2797.89 | 2879.53 | 2962.53 | 3046.94 | 3132.85 | 3220.34 | 3309.50 | 3400.41 | 3493.18 | 12 |
| 13 | 2718.85 | 2799.24 | 2880.90 | 2963.92 | 3048.36 | 3134.30 | 3221.82 | 3311.00 | 3401.94 | 3494.74 | 13 |
| 14 | 2720.18 | 2800.59 | 2882.28 | 2965.32 | 3049.78 | 3135.75 | 3223.29 | 3312.50 | 3403.47 | 3496.31 | 14 |
| 15 | 2721.51 | 2801.94 | 2883.65 | 2966.71 | 3051.20 | 3137.19 | 3224.76 | 3314.00 | 3405.00 | 3497.87 | 15 |
| 16 | 2722.84 | 2803.29 | 2885.02 | 2968.11 | 3052.62 | 3138.64 | 3226.23 | 3315.50 | 3406.54 | 3499.43 | 16 |
| 17 | 2724.17 | 2804.64 | 2886.39 | 2969.50 | 3054.04 | 3140.08 | 3227.71 | 3317.00 | 3408.07 | 3501.00 | 17 |
| 18 | 2725.50 | 2805.99 | 2887.77 | 2970.90 | 3055.46 | 3141.53 | 3229.18 | 3318.51 | 3409.60 | 3502.56 | 18 |
| 19 | 2726.83 | 2807.34 | 2889.14 | 2972.30 | 3056.88 | 3142.98 | 3230.66 | 3320.01 | 3411.14 | 3504.13 | 19 |
| 20 | 2728.17 | 2808.70 | 2890.52 | 2973.70 | 3058.31 | 3144.42 | 3232.13 | 3321.52 | 3412.67 | 3505.70 | 20 |
| 21 | 2729.50 | 2810.05 | 2891.89 | 2975.09 | 3059.73 | 3145.87 | 3233.61 | 3323.02 | 3414.20 | 3507.26 | 21 |
| 22 | 2730.83 | 2811.40 | 2893.27 | 2976.49 | 3061.15 | 3147.32 | 3235.08 | 3324.53 | 3415.74 | 3508.83 | 22 |
| 23 | 2732.16 | 2812.76 | 2894.64 | 2977.89 | 3062.58 | 3148.77 | 3236.56 | 3326.03 | 3417.28 | 3510.40 | 23 |
| 24 | 2733.50 | 2814.11 | 2896.02 | 2979.29 | 3064.00 | 3150.22 | 3238.04 | 3327.54 | 3418.81 | 3511.97 | 24 |
| 25 | 2734.83 | 2815.46 | 2897.40 | 2980.69 | 3065.42 | 3151.67 | 3239.52 | 3329.04 | 3420.35 | 3513.54 | 25 |
| 26 | 2736.16 | 2816.82 | 2898.77 | 2982.09 | 3066.85 | 3153.12 | 3240.99 | 3330.55 | 3421.89 | 3515.11 | 26 |
| 27 | 2737.50 | 2818.17 | 2900.15 | 2983.49 | 3068.27 | 3154.57 | 3242.47 | 3332.06 | 3423.43 | 3516.68 | 27 |
| 28 | 2738.83 | 2819.53 | 2901.53 | 2984.89 | 3069.70 | 3156.03 | 3243.95 | 3333.56 | 3424.96 | 3518.25 | 28 |
| 29 | 2740.17 | 2820.88 | 2902.91 | 2986.29 | 3071.13 | 3157.48 | 3245.43 | 3335.07 | 3426.50 | 3519.82 | 29 |
| 30 | 2741.50 | 2822.24 | 2904.28 | 2987.70 | 3072.55 | 3158.93 | 3246.91 | 3336.58 | 3428.04 | 3521.39 | 30 |
| 31 | 2742.84 | 2823.60 | 2905.66 | 2989.10 | 3073.98 | 3160.38 | 3248.39 | 3338.09 | 3429.58 | 3522.96 | 31 |
| 32 | 2744.17 | 2824.95 | 2907.04 | 2990.50 | 3075.41 | 3161.84 | 3249.87 | 3339.60 | 3431.12 | 3524.54 | 32 |
| 33 | 2745.51 | 2826.31 | 2908.42 | 2991.90 | 3076.84 | 3163.29 | 3251.35 | 3341.11 | 3432.66 | 3526.11 | 33 |
| 34 | 2746.84 | 2827.67 | 2909.80 | 2993.31 | 3078.26 | 3164.74 | 3252.84 | 3342.62 | 3434.20 | 3527.68 | 34 |
| 35 | 2748.18 | 2829.03 | 2911.18 | 2994.71 | 3079.69 | 3166.20 | 3254.32 | 3344.14 | 3435.75 | 3529.26 | 35 |
| 36 | 2749.52 | 2830.39 | 2912.56 | 2996.12 | 3081.12 | 3167.65 | 3255.80 | 3345.65 | 3437.29 | 3530.83 | 36 |
| 37 | 2750.85 | 2831.74 | 2913.94 | 2997.52 | 3082.55 | 3169.11 | 3257.28 | 3347.16 | 3438.83 | 3532.41 | 37 |
| 38 | 2752.19 | 2833.10 | 2915.32 | 2998.93 | 3083.98 | 3170.57 | 3258.77 | 3348.67 | 3440.38 | 3533.99 | 38 |
| 39 | 2753.53 | 2834.46 | 2916.71 | 3000.33 | 3085.41 | 3172.02 | 3260.25 | 3350.19 | 3441.92 | 3535.56 | 39 |
| 40 | 2754.87 | 2835.82 | 2918.09 | 3001.74 | 3086.84 | 3173.48 | 3261.74 | 3351.70 | 3443.47 | 3537.14 | 40 |
| 41 | 2756.21 | 2837.18 | 2919.47 | 3003.14 | 3088.27 | 3174.94 | 3263.22 | 3353.21 | 3445.01 | 3538.72 | 41 |
| 42 | 2757.55 | 2838.54 | 2920.85 | 3004.55 | 3089.70 | 3176.40 | 3264.71 | 3354.73 | 3446.56 | 3540.30 | 42 |
| 43 | 2758.89 | 2839.90 | 2922.24 | 3005.96 | 3091.14 | 3177.85 | 3266.19 | 3356.24 | 3448.10 | 3541.88 | 43 |
| 44 | 2760.23 | 2841.27 | 2923.62 | 3007.36 | 3092.57 | 3179.31 | 3267.68 | 3357.76 | 3449.65 | 3543.45 | 44 |
| 45 | 2761.57 | 2842.63 | 2925.01 | 3008.77 | 3094.00 | 3180.77 | 3269.17 | 3359.28 | 3451.20 | 3545.04 | 45 |
| 46 | 2762.91 | 2843.99 | 2926.39 | 3010.18 | 3095.43 | 3182.23 | 3270.65 | 3360.79 | 3452.75 | 3546.62 | 46 |
| 47 | 2764.25 | 2845.35 | 2927.78 | 3011.59 | 3096.87 | 3183.69 | 3272.14 | 3362.31 | 3454.29 | 3548.20 | 47 |
| 48 | 2765.59 | 2846.71 | 2929.16 | 3013.00 | 3098.30 | 3185.15 | 3273.63 | 3363.83 | 3455.84 | 3549.78 | 48 |
| 49 | 2766.93 | 2848.08 | 2930.55 | 3014.41 | 3099.74 | 3186.61 | 3275.12 | 3365.35 | 3457.39 | 3551.36 | 49 |
| 50 | 2768.27 | 2849.44 | 2931.93 | 3015.82 | 3101.17 | 3188.07 | 3276.61 | 3366.87 | 3458.94 | 3552.94 | 50 |
| 51 | 2769.62 | 2850.81 | 2933.32 | 3017.23 | 3102.60 | 3189.54 | 3278.10 | 3368.39 | 3460.49 | 3554.53 | 51 |
| 52 | 2770.96 | 2852.17 | 2934.71 | 3018.64 | 3104.04 | 3191.00 | 3279.59 | 3369.91 | 3462.04 | 3556.11 | 52 |
| 53 | 2772.30 | 2853.53 | 2936.09 | 3020.05 | 3105.48 | 3192.46 | 3281.08 | 3371.43 | 3463.60 | 3557.70 | 53 |
| 54 | 2773.64 | 2854.90 | 2937.48 | 3021.46 | 3106.92 | 3193.92 | 3282.57 | 3372.95 | 3465.15 | 3559.28 | 54 |
| 55 | 2774.99 | 2856.26 | 2938.87 | 3022.87 | 3108.35 | 3195.39 | 3284.06 | 3374.47 | 3466.70 | 3560.87 | 55 |
| 56 | 2776.33 | 2857.63 | 2940.26 | 3024.29 | 3109.79 | 3196.85 | 3285.56 | 3375.99 | 3468.26 | 3562.45 | 56 |
| 57 | 2777.68 | 2858.99 | 2941.65 | 3025.70 | 3111.23 | 3198.32 | 3287.05 | 3377.51 | 3469.81 | 3564.04 | 57 |
| 58 | 2779.02 | 2860.36 | 2943.04 | 3027.11 | 3112.67 | 3199.78 | 3288.54 | 3379.04 | 3471.36 | 3565.63 | 58 |
| 59 | 2780.37 | 2861.73 | 2944.42 | 3028.52 | 3114.11 | 3201.25 | 3290.04 | 3380.56 | 3472.92 | 3567.22 | 59 |
| 60 | 2781.71 | 2863.10 | 2945.81 | 3029.94 | 3115.55 | 3202.71 | 3291.53 | 3382.08 | 3474.47 | 3568.81 | 60 |

The Anti-Gudermannian.

| gd u | 51° | 52° | 53° | 54° | 55° | 56° | 57° | 58° | 59° | 60° | gd u |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 0 | 3568.81 | 3665.19 | 3763.76 | 3864.64 | 3967.97 | 4073.90 | 4182.62 | 4294.30 | 4409.14 | 4527.37 | 0 |
| 1 | 3570.40 | 3666.82 | 3765.42 | 3866.34 | 3969.71 | 4075.69 | 4184.46 | 4296.19 | 4411.08 | 4529.37 | 1 |
| 2 | 3571.99 | 3668.44 | 3767.09 | 3868.04 | 3971.46 | 4077.48 | 4186.29 | 4298.07 | 4413.03 | 4531.37 | 2 |
| 3 | 3573.58 | 3670.07 | 3768.75 | 3869.74 | 3973.20 | 4079.27 | 4188.13 | 4299.96 | 4414.97 | 4533.37 | 3 |
| 4 | 3575.17 | 3671.70 | 3770.41 | 3871.45 | 3974.95 | 4081.06 | 4189.97 | 4301.85 | 4416.92 | 4535.38 | 4 |
| 5 | 3576.76 | 3673.32 | 3772.08 | 3873.15 | 3976.69 | 4082.86 | 4191.81 | 4303.74 | 4418.86 | 4537.38 | 5 |
| 6 | 3578.35 | 3674.95 | 3773.74 | 3874.86 | 3978.44 | 4084.65 | 4193.65 | 4305.64 | 4420.81 | 4539.39 | 6 |
| 7 | 3579.94 | 3676.58 | 3775.41 | 3876.56 | 3980.19 | 4086.44 | 4195.49 | 4307.53 | 4422.76 | 4541.39 | 7 |
| 8 | 3581.54 | 3678.21 | 3777.08 | 3878.27 | 3981.94 | 4088.24 | 4197.33 | 4309.42 | 4424.70 | 4543.40 | 8 |
| 9 | 3583.13 | 3679.84 | 3778.74 | 3879.98 | 3983.69 | 4090.03 | 4199.17 | 4311.32 | 4426.65 | 4545.41 | 9 |
| 10 | 3584.73 | 3681.47 | 3780.41 | 3881.68 | 3985.44 | 4091.83 | 4201.02 | 4313.21 | 4428.60 | 4547.42 | 10 |
| 11 | 3586.32 | 3683.10 | 3782.08 | 3883.39 | 3987.19 | 4093.62 | 4202.87 | 4315.11 | 4430.56 | 4549.43 | 11 |
| 12 | 3587.92 | 3684.73 | 3783.75 | 3885.10 | 3988.94 | 4095.42 | 4204.71 | 4317.01 | 4432.51 | 4551.44 | 12 |
| 13 | 3589.51 | 3686.36 | 3785.42 | 3886.81 | 3990.69 | 4097.22 | 4206.56 | 4318.91 | 4434.46 | 4553.45 | 13 |
| 14 | 3591.11 | 3687.99 | 3787.09 | 3888.52 | 3992.45 | 4099.02 | 4208.41 | 4320.80 | 4436.42 | 4555.47 | 14 |
| 15 | 3592.71 | 3689.63 | 3788.76 | 3890.23 | 3994.20 | 4100.82 | 4210.26 | 4322.70 | 4438.37 | 4557.48 | 15 |
| 16 | 3594.30 | 3691.26 | 3790.43 | 3891.95 | 3995.96 | 4102.62 | 4212.10 | 4324.61 | 4440.33 | 4559.50 | 16 |
| 17 | 3595.90 | 3692.90 | 3792.10 | 3893.66 | 3997.71 | 4104.42 | 4213.95 | 4326.51 | 4442.29 | 4561.52 | 17 |
| 18 | 3597.50 | 3694.53 | 3793.78 | 3895.37 | 3999.47 | 4106.22 | 4215.80 | 4328.41 | 4444.24 | 4563.53 | 18 |
| 19 | 3599.10 | 3696.17 | 3795.45 | 3897.09 | 4001.22 | 4108.02 | 4217.66 | 4330.31 | 4446.20 | 4565.55 | 19 |
| 20 | 3600.70 | 3697.80 | 3797.12 | 3898.80 | 4002.98 | 4109.82 | 4219.51 | 4332.22 | 4448.16 | 4567.57 | 20 |
| 21 | 3602.30 | 3699.44 | 3798.80 | 3900.52 | 4004.74 | 4111.63 | 4221.36 | 4334.12 | 4450.12 | 4569.59 | 21 |
| 22 | 3603.90 | 3701.08 | 3800.47 | 3902.23 | 4006.50 | 4113.44 | 4223.22 | 4336.03 | 4452.09 | 4571.61 | 22 |
| 23 | 3605.50 | 3702.71 | 3802.15 | 3903.95 | 4008.26 | 4115.24 | 4225.07 | 4337.94 | 4454.05 | 4573.64 | 23 |
| 24 | 3607.11 | 3704.35 | 3803.83 | 3905.67 | 4010.02 | 4117.05 | 4226.93 | 4339.84 | 4456.01 | 4575.66 | 24 |
| 25 | 3608.71 | 3705.99 | 3805.50 | 3907.38 | 4011.78 | 4118.85 | 4228.78 | 4341.75 | 4457.98 | 4577.69 | 25 |
| 26 | 3610.32 | 3707.63 | 3807.18 | 3909.10 | 4013.54 | 4120.66 | 4230.64 | 4343.66 | 4459.94 | 4579.71 | 26 |
| 27 | 3611.92 | 3709.27 | 3808.86 | 3910.82 | 4015.31 | 4122.47 | 4232.50 | 4345.57 | 4461.91 | 4581.74 | 27 |
| 28 | 3613.52 | 3710.91 | 3810.54 | 3912.54 | 4017.07 | 4124.28 | 4234.36 | 4347.48 | 4463.88 | 4583.77 | 28 |
| 29 | 3615.13 | 3712.56 | 3812.22 | 3914.26 | 4018.84 | 4126.09 | 4236.22 | 4349.40 | 4465.85 | 4585.80 | 29 |
| 30 | 3616.74 | 3714.20 | 3813.90 | 3915.99 | 4020.60 | 4127.90 | 4238.08 | 4351.31 | 4467.82 | 4587.83 | 30 |
| 31 | 3618.34 | 3715.84 | 3815.58 | 3917.71 | 4022.37 | 4129.72 | 4239.94 | 4353.23 | 4469.79 | 4589.86 | 31 |
| 32 | 3619.95 | 3717.48 | 3817.27 | 3919.43 | 4024.13 | 4131.53 | 4241.80 | 4355.14 | 4471.76 | 4591.89 | 32 |
| 33 | 3621.56 | 3719.13 | 3818.95 | 3921.16 | 4025.90 | 4133.34 | 4243.67 | 4357.06 | 4473.73 | 4593.92 | 33 |
| 34 | 3623.17 | 3720.77 | 3820.63 | 3922.88 | 4027.67 | 4135.16 | 4245.53 | 4358.97 | 4475.71 | 4595.96 | 34 |
| 35 | 3624.78 | 3722.42 | 3822.32 | 3924.61 | 4029.44 | 4136.97 | 4247.39 | 4360.89 | 4477.68 | 4598.00 | 35 |
| 36 | 3626.39 | 3724.06 | 3824.00 | 3926.33 | 4031.21 | 4138.79 | 4249.26 | 4362.81 | 4479.66 | 4600.03 | 36 |
| 37 | 3628.00 | 3725.71 | 3825.69 | 3928.06 | 4032.98 | 4140.61 | 4251.13 | 4364.73 | 4481.63 | 4602.07 | 37 |
| 38 | 3629.61 | 3727.36 | 3827.37 | 3929.79 | 4034.75 | 4142.42 | 4252.99 | 4366.65 | 4483.61 | 4604.11 | 38 |
| 39 | 3631.22 | 3729.01 | 3829.06 | 3931.51 | 4036.52 | 4144.24 | 4254.86 | 4368.57 | 4485.59 | 4606.15 | 39 |
| 40 | 3632.83 | 3730.66 | 3830.75 | 3933.24 | 4038.29 | 4146.06 | 4256.73 | 4370.50 | 4487.57 | 4608.19 | 40 |
| 41 | 3634.44 | 3732.30 | 3832.43 | 3934.97 | 4040.07 | 4147.88 | 4258.60 | 4372.42 | 4489.55 | 4610.23 | 41 |
| 42 | 3636.06 | 3733.95 | 3834.12 | 3936.70 | 4041.84 | 4149.70 | 4260.47 | 4374.34 | 4491.53 | 4612.27 | 42 |
| 43 | 3637.67 | 3735.61 | 3835.81 | 3938.43 | 4043.61 | 4151.52 | 4262.34 | 4376.27 | 4493.51 | 4614.32 | 43 |
| 44 | 3639.28 | 3737.26 | 3837.50 | 3940.16 | 4045.39 | 4153.35 | 4264.22 | 4378.20 | 4495.50 | 4616.36 | 44 |
| 45 | 3640.90 | 3738.91 | 3839.19 | 3941.90 | 4047.17 | 4155.17 | 4266.09 | 4380.12 | 4497.48 | 4618.41 | 45 |
| 46 | 3642.51 | 3740.56 | 3840.88 | 3943.63 | 4048.94 | 4157.00 | 4267.97 | 4382.05 | 4499.47 | 4620.45 | 46 |
| 47 | 3644.13 | 3742.21 | 3842.58 | 3945.36 | 4050.72 | 4158.82 | 4269.84 | 4383.98 | 4501.45 | 4622.50 | 47 |
| 48 | 3645.75 | 3743.87 | 3844.27 | 3947.10 | 4052.50 | 4160.65 | 4271.72 | 4385.91 | 4503.44 | 4624.55 | 48 |
| 49 | 3647.36 | 3745.52 | 3845.96 | 3948.83 | 4054.28 | 4162.47 | 4273.59 | 4387.84 | 4505.43 | 4626.60 | 49 |
| 50 | 3648.98 | 3747.18 | 3847.66 | 3950.57 | 4056.06 | 4164.30 | 4275.47 | 4389.77 | 4507.42 | 4628.65 | 50 |
| 51 | 3650.60 | 3748.83 | 3849.35 | 3952.31 | 4057.84 | 4166.13 | 4277.35 | 4391.70 | 4509.41 | 4630.71 | 51 |
| 52 | 3652.22 | 3750.49 | 3851.05 | 3954.04 | 4059.62 | 4167.96 | 4279.23 | 4393.64 | 4511.40 | 4632.76 | 52 |
| 53 | 3653.84 | 3752.15 | 3852.75 | 3955.78 | 4061.41 | 4169.79 | 4281.11 | 4395.57 | 4513.39 | 4634.81 | 53 |
| 54 | 3655.46 | 3753.80 | 3854.44 | 3957.52 | 4063.19 | 4171.62 | 4282.99 | 4397.51 | 4515.39 | 4636.87 | 54 |
| 55 | 3657.08 | 3755.46 | 3856.14 | 3959.26 | 4064.97 | 4173.45 | 4284.87 | 4399.44 | 4517.38 | 4638.93 | 55 |
| 56 | 3658.70 | 3757.12 | 3857.84 | 3961.00 | 4066.76 | 4175.28 | 4286.76 | 4401.38 | 4519.38 | 4640.98 | 56 |
| 57 | 3660.32 | 3758.78 | 3859.54 | 3962.74 | 4068.54 | 4177.12 | 4288.64 | 4403.32 | 4521.37 | 4643.04 | 57 |
| 58 | 3661.95 | 3760.44 | 3861.24 | 3964.48 | 4070.33 | 4178.95 | 4290.53 | 4405.26 | 4523.37 | 4645.10 | 58 |
| 59 | 3663.57 | 3762.10 | 3862.94 | 3966.22 | 4072.12 | 4180.78 | 4292.41 | 4407.20 | 4525.37 | 4647.16 | 59 |
| 60 | 3665.19 | 3763.76 | 3864.64 | 3967.97 | 4073.90 | 4182.62 | 4294.30 | 4409.14 | 4527.37 | 4649.23 | 60 |

The Anti-Gudermannian.

| adu | 61° | 62° | 63° | 64° | 65° | 66° | 67° | 68° | 69° | 70° | adu |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|
| 0' | 4649'.23 | 4774'.98 | 4904'.94 | 5039'.42 | 5178'.81 | 5323'.51 | 5474'.01 | 5630'.82 | 5794'.56 | 5965'.92 | 0' |
| 1 | 4651'.29 | 4777'.11 | 4907'.14 | 5041'.70 | 5181'.18 | 5325'.97 | 5476'.57 | 5633'.49 | 5797'.35 | 5968'.84 | 1 |
| 2 | 4653'.35 | 4779'.25 | 4909'.35 | 5043'.99 | 5183'.54 | 5328'.43 | 5479'.13 | 5636'.16 | 5800'.14 | 5971'.77 | 2 |
| 3 | 4655'.42 | 4781'.38 | 4911'.55 | 5046'.27 | 5185'.91 | 5330'.90 | 5481'.69 | 5638'.84 | 5802'.94 | 5974'.70 | 3 |
| 4 | 4657'.49 | 4783'.51 | 4913'.76 | 5048'.56 | 5188'.29 | 5333'.36 | 5484'.26 | 5641'.51 | 5805'.74 | 5977'.63 | 4 |
| 5 | 4659'.55 | 4785'.65 | 4915'.97 | 5050'.85 | 5190'.66 | 5335'.83 | 5486'.83 | 5644'.19 | 5808'.54 | 5980'.57 | 5 |
| 6 | 4661'.62 | 4787'.79 | 4918'.18 | 5053'.14 | 5193'.03 | 5338'.30 | 5489'.40 | 5646'.87 | 5811'.34 | 5983'.50 | 6 |
| 7 | 4663'.69 | 4789'.92 | 4920'.39 | 5055'.43 | 5195'.41 | 5340'.77 | 5491'.97 | 5649'.56 | 5814'.15 | 5986'.44 | 7 |
| 8 | 4665'.76 | 4792'.06 | 4922'.60 | 5057'.72 | 5197'.79 | 5343'.24 | 5494'.54 | 5652'.24 | 5816'.95 | 5989'.38 | 8 |
| 9 | 4667'.83 | 4794'.20 | 4924'.81 | 5060'.01 | 5200'.17 | 5345'.71 | 5497'.11 | 5654'.93 | 5819'.76 | 5992'.33 | 9 |
| 10 | 4669'.91 | 4796'.34 | 4927'.03 | 5062'.30 | 5202'.55 | 5348'.18 | 5499'.69 | 5657'.61 | 5822'.57 | 5995'.27 | 10 |
| 11 | 4671'.98 | 4798'.49 | 4929'.24 | 5064'.60 | 5204'.93 | 5350'.66 | 5502'.27 | 5660'.30 | 5825'.39 | 5998'.22 | 11 |
| 12 | 4674'.06 | 4800'.63 | 4931'.46 | 5066'.90 | 5207'.31 | 5353'.14 | 5504'.85 | 5663'.00 | 5828'.20 | 6001'.17 | 12 |
| 13 | 4676'.13 | 4802'.77 | 4933'.68 | 5069'.19 | 5209'.70 | 5355'.61 | 5507'.43 | 5665'.69 | 5831'.02 | 6004'.13 | 13 |
| 14 | 4678'.21 | 4804'.92 | 4935'.90 | 5071'.49 | 5212'.08 | 5358'.09 | 5510'.01 | 5668'.38 | 5833'.84 | 6007'.08 | 14 |
| 15 | 4680'.29 | 4807'.07 | 4938'.12 | 5073'.80 | 5214'.47 | 5360'.58 | 5512'.60 | 5671'.08 | 5836'.66 | 6010'.04 | 15 |
| 16 | 4682'.37 | 4809'.21 | 4940'.34 | 5076'.10 | 5216'.86 | 5363'.06 | 5515'.18 | 5673'.78 | 5839'.48 | 6013'.00 | 16 |
| 17 | 4684'.45 | 4811'.36 | 4942'.57 | 5078'.40 | 5219'.25 | 5365'.55 | 5517'.77 | 5676'.48 | 5842'.31 | 6015'.96 | 17 |
| 18 | 4686'.53 | 4813'.51 | 4944'.79 | 5080'.71 | 5221'.64 | 5368'.03 | 5520'.36 | 5679'.19 | 5845'.13 | 6018'.93 | 18 |
| 19 | 4688'.61 | 4815'.67 | 4947'.02 | 5083'.01 | 5224'.04 | 5370'.52 | 5522'.95 | 5681'.89 | 5847'.96 | 6021'.90 | 19 |
| 20 | 4690'.70 | 4817'.82 | 4949'.24 | 5085'.32 | 5226'.43 | 5373'.01 | 5525'.55 | 5684'.60 | 5850'.79 | 6024'.87 | 20 |
| 21 | 4692'.78 | 4819'.97 | 4951'.47 | 5087'.63 | 5228'.83 | 5375'.50 | 5528'.14 | 5687'.31 | 5853'.63 | 6027'.84 | 21 |
| 22 | 4694'.87 | 4822'.13 | 4953'.70 | 5089'.94 | 5231'.23 | 5378'.00 | 5530'.74 | 5690'.02 | 5856'.47 | 6030'.81 | 22 |
| 23 | 4696'.96 | 4824'.29 | 4955'.94 | 5092'.25 | 5233'.63 | 5380'.49 | 5533'.34 | 5692'.73 | 5859'.31 | 6033'.79 | 23 |
| 24 | 4699'.05 | 4826'.44 | 4958'.17 | 5094'.57 | 5236'.03 | 5382'.99 | 5535'.94 | 5695'.45 | 5862'.15 | 6036'.77 | 24 |
| 25 | 4701'.14 | 4828'.60 | 4960'.40 | 5096'.88 | 5238'.43 | 5385'.49 | 5538'.55 | 5698'.17 | 5864'.99 | 6039'.75 | 25 |
| 26 | 4703'.23 | 4830'.76 | 4962'.64 | 5099'.20 | 5240'.84 | 5387'.99 | 5541'.15 | 5700'.89 | 5867'.84 | 6042'.74 | 26 |
| 27 | 4705'.32 | 4832'.93 | 4964'.87 | 5101'.52 | 5243'.24 | 5390'.49 | 5543'.76 | 5703'.61 | 5870'.69 | 6045'.73 | 27 |
| 28 | 4707'.41 | 4835'.09 | 4967'.11 | 5103'.84 | 5245'.65 | 5392'.99 | 5546'.37 | 5706'.33 | 5873'.54 | 6048'.72 | 28 |
| 29 | 4709'.51 | 4837'.25 | 4969'.35 | 5106'.16 | 5248'.06 | 5395'.50 | 5548'.98 | 5709'.06 | 5876'.39 | 6051'.71 | 29 |
| 30 | 4711'.60 | 4839'.42 | 4971'.59 | 5108'.48 | 5250'.47 | 5398'.01 | 5551'.59 | 5711'.78 | 5879'.24 | 6054'.70 | 30 |
| 31 | 4713'.70 | 4841'.58 | 4973'.83 | 5110'.80 | 5252'.88 | 5400'.52 | 5554'.20 | 5714'.51 | 5882'.10 | 6057'.70 | 31 |
| 32 | 4715'.79 | 4843'.75 | 4976'.08 | 5113'.13 | 5255'.30 | 5403'.03 | 5556'.82 | 5717'.25 | 5884'.96 | 6060'.70 | 32 |
| 33 | 4717'.89 | 4845'.92 | 4978'.32 | 5115'.45 | 5257'.71 | 5405'.54 | 5559'.44 | 5719'.98 | 5887'.82 | 6063'.71 | 33 |
| 34 | 4719'.99 | 4848'.09 | 4980'.57 | 5117'.78 | 5260'.13 | 5408'.05 | 5562'.06 | 5722'.71 | 5890'.68 | 6066'.71 | 34 |
| 35 | 4722'.09 | 4850'.26 | 4982'.82 | 5120'.11 | 5262'.55 | 5410'.57 | 5564'.68 | 5725'.45 | 5893'.55 | 6069'.71 | 35 |
| 36 | 4724'.19 | 4852'.43 | 4985'.06 | 5122'.44 | 5264'.97 | 5413'.08 | 5567'.30 | 5728'.19 | 5896'.41 | 6072'.72 | 36 |
| 37 | 4726'.30 | 4854'.61 | 4987'.31 | 5124'.77 | 5267'.39 | 5415'.60 | 5569'.93 | 5730'.93 | 5899'.28 | 6075'.73 | 37 |
| 38 | 4728'.40 | 4856'.78 | 4989'.56 | 5127'.11 | 5269'.81 | 5418'.12 | 5572'.55 | 5733'.68 | 5902'.15 | 6078'.75 | 38 |
| 39 | 4730'.51 | 4858'.96 | 4991'.82 | 5129'.44 | 5272'.23 | 5420'.64 | 5575'.18 | 5736'.42 | 5905'.03 | 6081'.76 | 39 |
| 40 | 4732'.61 | 4861'.13 | 4994'.07 | 5131'.78 | 5274'.66 | 5423'.17 | 5577'.81 | 5739'.17 | 5907'.90 | 6084'.78 | 40 |
| 41 | 4734'.72 | 4863'.31 | 4996'.32 | 5134'.11 | 5277'.09 | 5425'.69 | 5580'.44 | 5741'.92 | 5910'.78 | 6087'.81 | 41 |
| 42 | 4736'.83 | 4865'.49 | 4998'.58 | 5136'.45 | 5279'.52 | 5428'.22 | 5583'.08 | 5744'.67 | 5913'.67 | 6090'.83 | 42 |
| 43 | 4738'.94 | 4867'.67 | 5000'.84 | 5138'.79 | 5281'.95 | 5430'.75 | 5585'.71 | 5747'.43 | 5916'.55 | 6093'.86 | 43 |
| 44 | 4741'.05 | 4869'.86 | 5003'.10 | 5141'.14 | 5284'.38 | 5433'.28 | 5588'.35 | 5750'.18 | 5919'.44 | 6096'.89 | 44 |
| 45 | 4743'.16 | 4872'.04 | 5005'.36 | 5143'.48 | 5286'.82 | 5435'.81 | 5590'.99 | 5752'.94 | 5922'.32 | 6099'.92 | 45 |
| 46 | 4745'.28 | 4874'.22 | 5007'.62 | 5145'.83 | 5289'.25 | 5438'.35 | 5593'.64 | 5755'.70 | 5925'.22 | 6102'.95 | 46 |
| 47 | 4747'.39 | 4876'.41 | 5009'.88 | 5148'.17 | 5291'.69 | 5440'.88 | 5596'.28 | 5758'.46 | 5928'.11 | 6105'.99 | 47 |
| 48 | 4749'.51 | 4878'.60 | 5012'.15 | 5150'.52 | 5294'.13 | 5443'.42 | 5598'.93 | 5761'.23 | 5931'.00 | 6109'.03 | 48 |
| 49 | 4751'.63 | 4880'.79 | 5014'.41 | 5152'.87 | 5296'.57 | 5445'.96 | 5601'.57 | 5763'.99 | 5933'.90 | 6112'.07 | 49 |
| 50 | 4753'.74 | 4882'.98 | 5016'.68 | 5155'.22 | 5299'.01 | 5448'.50 | 5604'.22 | 5766'.76 | 5936'.80 | 6115'.12 | 50 |
| 51 | 4755'.86 | 4885'.17 | 5018'.94 | 5157'.57 | 5301'.45 | 5451'.05 | 5606'.87 | 5769'.53 | 5939'.70 | 6118'.16 | 51 |
| 52 | 4757'.98 | 4887'.36 | 5021'.21 | 5159'.93 | 5303'.90 | 5453'.59 | 5609'.53 | 5772.31 | 5942'.61 | 6121.21 | 52 |
| 53 | 4760'.10 | 4889'.55 | 5023'.48 | 5162'.28 | 5306'.34 | 5456'.14 | 5612'.18 | 5775'.08 | 5945'.51 | 6124'.26 | 53 |
| 54 | 4762'.23 | 4891'.75 | 5025'.76 | 5164'.64 | 5308'.79 | 5458'.68 | 5614'.84 | 5777'.86 | 5948'.42 | 6127'.32 | 54 |
| 55 | 4764'.35 | 4893'.94 | 5028'.03 | 5167'.00 | 5311.24 | 5461.23 | 5617.50 | 5780.64 | 5951.33 | 6130.38 | 55 |
| 56 | 4766.47 | 4896.14 | 5030.30 | 5169.36 | 5313.69 | 5463.78 | 5620.16 | 5783.42 | 5954.24 | 6133.44 | 56 |
| 57 | 4768.60 | 4898.34 | 5032.58 | 5171.72 | 5316.15 | 5466.34 | 5622.82 | 5786.20 | 5957.16 | 6136.50 | 57 |
| 58 | 4770.73 | 4900.54 | 5034.86 | 5174.08 | 5318.60 | 5468.89 | 5625.49 | 5788.98 | 5960.08 | 6139.56 | 58 |
| 59 | 4772.86 | 4902.74 | 5037.14 | 5176.44 | 5321.06 | 5471.45 | 5628.15 | 5791.77 | 5963.00 | 6142.63 | 59 |
| 60 | 4774.98 | 4904.94 | 5039.42 | 5178.81 | 5323.51 | 5474.01 | 5630.82 | 5794.56 | 5965.92 | 6145.70 | 60 |

The Anti-Gudermannian.

| gd u | 71° | 72° | 73° | 74° | 75° | 76° | 77° | 78° | 79° | 80° | gd u |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 0 | 6145'.70 | 6334.84 | 6534.42 | 6745.74 | 6970.34 | 7210.07 | 7467.21 | 7744.57 | 8045.71 | 8375.20 | 0 |
| 1 | 6148.77 | 6338.08 | 6537.85 | 6749.37 | 6974.20 | 7214.20 | 7471.66 | 7749.38 | 8050.95 | 8380.96 | 1 |
| 2 | 6151.85 | 6341.32 | 6541.27 | 6753.01 | 6978.07 | 7218.33 | 7476.11 | 7754.20 | 8056.20 | 8386.73 | 2 |
| 3 | 6154.93 | 6344.56 | 6544.70 | 6756.64 | 6981.95 | 7222.49 | 7480.57 | 7759.02 | 8061.46 | 8392.52 | 3 |
| 4 | 6158.01 | 6347.81 | 6548.13 | 6760.28 | 6985.83 | 7226.64 | 7485.03 | 7763.86 | 8066.73 | 8398.31 | 4 |
| 5 | 6161.09 | 6351.06 | 6551.57 | 6763.93 | 6989.71 | 7230.80 | 7489.50 | 7768.70 | 8072.01 | 8404.11 | 5 |
| 6 | 6164.18 | 6354.31 | 6555.01 | 6767.58 | 6993.60 | 7234.96 | 7493.98 | 7773.55 | 8077.29 | 8409.92 | 6 |
| 7 | 6167.27 | 6357.56 | 6558.45 | 6771.23 | 6997.49 | 7239.12 | 7498.46 | 7778.40 | 8082.58 | 8415.74 | 7 |
| 8 | 6170.36 | 6360.82 | 6561.89 | 6774.89 | 7001.38 | 7243.29 | 7502.95 | 7783.26 | 8087.88 | 8421.57 | 8 |
| 9 | 6173.45 | 6364.08 | 6565.34 | 6778.55 | 7005.28 | 7247.47 | 7507.44 | 7788.12 | 8093.19 | 8427.42 | 9 |
| 10 | 6176.55 | 6367.35 | 6568.79 | 6782.21 | 7009.19 | 7251.65 | 7511.94 | 7793.00 | 8098.51 | 8433.27 | 10 |
| 11 | 6179.65 | 6370.61 | 6572.25 | 6785.88 | 7013.10 | 7255.83 | 7516.45 | 7797.88 | 8103.83 | 8439.13 | 11 |
| 12 | 6182.75 | 6373.88 | 6575.70 | 6789.55 | 7017.01 | 7260.02 | 7520.96 | 7802.76 | 8109.17 | 8445.00 | 12 |
| 13 | 6185.85 | 6377.16 | 6579.16 | 6793.22 | 7020.93 | 7264.22 | 7525.47 | 7807.66 | 8114.51 | 8450.88 | 13 |
| 14 | 6188.96 | 6380.43 | 6582.63 | 6796.90 | 7024.85 | 7268.42 | 7530.00 | 7812.56 | 8119.86 | 8456.77 | 14 |
| 15 | 6192.07 | 6383.71 | 6586.10 | 6800.58 | 7028.77 | 7272.62 | 7534.53 | 7817.46 | 8125.22 | 8462.67 | 15 |
| 16 | 6195.18 | 6386.99 | 6589.57 | 6804.27 | 7032.70 | 7276.83 | 7539.06 | 7822.38 | 8130.58 | 8468.58 | 16 |
| 17 | 6198.30 | 6390.28 | 6593.05 | 6807.96 | 7036.64 | 7281.05 | 7543.60 | 7827.30 | 8135.95 | 8474.50 | 17 |
| 18 | 6201.42 | 6393.57 | 6596.52 | 6811.65 | 7040.58 | 7285.27 | 7548.15 | 7832.23 | 8141.33 | 8480.43 | 18 |
| 19 | 6204.54 | 6396.86 | 6600.01 | 6815.35 | 7044.52 | 7289.49 | 7552.70 | 7837.16 | 8146.72 | 8486.37 | 19 |
| 20 | 6207.66 | 6400.15 | 6603.49 | 6819.05 | 7048.47 | 7293.72 | 7557.26 | 7842.10 | 8152.12 | 8492.32 | 20 |
| 21 | 6210.78 | 6403.44 | 6606.98 | 6822.75 | 7052.42 | 7297.96 | 7561.82 | 7847.05 | 8157.53 | 8498.28 | 21 |
| 22 | 6213.91 | 6406.74 | 6610.47 | 6826.46 | 7056.37 | 7302.20 | 7566.39 | 7852.01 | 8162.95 | 8504.25 | 22 |
| 23 | 6217.04 | 6410.05 | 6613.96 | 6830.18 | 7060.33 | 7306.44 | 7570.96 | 7856.97 | 8168.37 | 8510.23 | 23 |
| 24 | 6220.18 | 6413.35 | 6617.46 | 6833.89 | 7064.30 | 7310.69 | 7575.54 | 7861.94 | 8173.80 | 8516.22 | 24 |
| 25 | 6223.31 | 6416.66 | 6620.97 | 6837.61 | 7068.27 | 7314.95 | 7580.13 | 7866.91 | 8179.24 | 8522.22 | 25 |
| 26 | 6226.45 | 6419.97 | 6624.47 | 6841.34 | 7072.24 | 7319.21 | 7584.72 | 7871.90 | 8184.69 | 8528.23 | 26 |
| 27 | 6229.59 | 6423.29 | 6627.98 | 6845.07 | 7076.22 | 7323.47 | 7589.32 | 7876.89 | 8190.15 | 8534.26 | 27 |
| 28 | 6232.74 | 6426.61 | 6631.49 | 6848.80 | 7080.20 | 7327.74 | 7593.93 | 7881.89 | 8195.61 | 8540.29 | 28 |
| 29 | 6235.89 | 6429.93 | 6635.01 | 6852.53 | 7084.19 | 7332.02 | 7598.54 | 7886.89 | 8201.09 | 8546.33 | 29 |
| 30 | 6239.04 | 6433.25 | 6638.53 | 6856.27 | 7088.18 | 7336.30 | 7603.16 | 7891.91 | 8206.57 | 8552.38 | 30 |
| 31 | 6242.19 | 6436.58 | 6642.05 | 6860.02 | 7092.18 | 7340.55 | 7607.78 | 7896.93 | 8212.06 | 8558.45 | 31 |
| 32 | 6245.35 | 6439.91 | 6645.58 | 6863.77 | 7096.18 | 7344.88 | 7612.41 | 7901.95 | 8217.56 | 8564.52 | 32 |
| 33 | 6248.50 | 6443.24 | 6649.11 | 6867.52 | 7100.18 | 7349.18 | 7617.04 | 7906.98 | 8223.07 | 8570.61 | 33 |
| 34 | 6251.67 | 6446.58 | 6652.64 | 6871.27 | 7104.19 | 7353.48 | 7621.68 | 7912.03 | 8228.59 | 8576.70 | 34 |
| 35 | 6254.83 | 6449.92 | 6656.18 | 6875.03 | 7108.21 | 7357.79 | 7626.33 | 7917.08 | 8234.12 | 8582.81 | 35 |
| 36 | 6258.00 | 6453.26 | 6659.72 | 6878.80 | 7112.23 | 7362.10 | 7630.99 | 7922.13 | 8239.66 | 8588.93 | 36 |
| 37 | 6261.17 | 6456.61 | 6663.26 | 6882.56 | 7116.25 | 7366.42 | 7635.65 | 7927.19 | 8245.20 | 8595.06 | 37 |
| 38 | 6264.34 | 6459.95 | 6666.81 | 6886.34 | 7120.28 | 7370.74 | 7640.31 | 7932.26 | 8250.75 | 8601.20 | 38 |
| 39 | 6267.51 | 6463.31 | 6670.36 | 6890.11 | 7124.31 | 7375.07 | 7644.98 | 7937.34 | 8256.31 | 8607.35 | 39 |
| 40 | 6270.69 | 6466.66 | 6673.91 | 6893.89 | 7128.35 | 7379.40 | 7649.66 | 7942.43 | 8261.88 | 8613.51 | 40 |
| 41 | 6273.87 | 6470.02 | 6677.47 | 6897.68 | 7132.39 | 7383.74 | 7654.35 | 7947.52 | 8267.46 | 8619.68 | 41 |
| 42 | 6277.05 | 6473.38 | 6681.03 | 6901.46 | 7136.43 | 7388.08 | 7659.04 | 7952.62 | 8273.05 | 8625.86 | 42 |
| 43 | 6280.24 | 6476.74 | 6684.59 | 6905.25 | 7140.48 | 7392.43 | 7663.74 | 7957.72 | 8278.65 | 8632.05 | 43 |
| 44 | 6283.43 | 6480.11 | 6688.16 | 6909.05 | 7144.54 | 7396.79 | 7668.44 | 7962.84 | 8284.25 | 8638.26 | 44 |
| 45 | 6286.62 | 6483.48 | 6691.73 | 6912.85 | 7148.60 | 7401.15 | 7673.15 | 7967.96 | 8289.87 | 8644.47 | 45 |
| 46 | 6289.82 | 6486.86 | 6695.31 | 6916.65 | 7152.67 | 7405.51 | 7677.87 | 7973.09 | 8295.49 | 8650.70 | 46 |
| 47 | 6293.01 | 6490.23 | 6698.89 | 6920.46 | 7156.74 | 7409.88 | 7682.59 | 7978.23 | 8301.12 | 8656.94 | 47 |
| 48 | 6296.21 | 6493.61 | 6702.47 | 6924.27 | 7160.81 | 7414.26 | 7687.32 | 7983.37 | 8306.77 | 8663.19 | 48 |
| 49 | 6299.42 | 6497.00 | 6706.06 | 6928.09 | 7164.89 | 7418.64 | 7692.05 | 7988.52 | 8312.42 | 8669.45 | 49 |
| 50 | 6302.62 | 6500.38 | 6709.65 | 6931.91 | 7168.97 | 7423.03 | 7696.79 | 7993.68 | 8318.08 | 8675.72 | 50 |
| 51 | 6305.83 | 6503.77 | 6713.24 | 6935.73 | 7173.06 | 7427.42 | 7701.54 | 7998.85 | 8323.75 | 8682.00 | 51 |
| 52 | 6309.04 | 6507.17 | 6716.84 | 6939.56 | 7177.15 | 7431.82 | 7706.30 | 8004.03 | 8329.43 | 8688.29 | 52 |
| 53 | 6312.26 | 6510.56 | 6720.44 | 6943.40 | 7181.25 | 7436.22 | 7711.06 | 8009.21 | 8335.12 | 8694.60 | 53 |
| 54 | 6315.48 | 6513.96 | 6724.04 | 6947.23 | 7185.35 | 7440.63 | 7715.83 | 8014.40 | 8340.82 | 8700.92 | 54 |
| 55 | 6318.70 | 6517.36 | 6727.65 | 6951.07 | 7189.46 | 7445.05 | 7720.60 | 8019.60 | 8346.52 | 8707.25 | 55 |
| 56 | 6321.92 | 6520.77 | 6731.26 | 6954.92 | 7193.57 | 7449.47 | 7725.38 | 8024.81 | 8352.24 | 8713.59 | 56 |
| 57 | 6325.14 | 6524.18 | 6734.88 | 6958.77 | 7197.69 | 7453.89 | 7730.17 | 8030.02 | 8357.96 | 8719.94 | 57 |
| 58 | 6328.37 | 6527.59 | 6738.50 | 6962.62 | 7201.81 | 7458.33 | 7734.96 | 8035.24 | 8363.70 | 8726.30 | 58 |
| 59 | 6331.61 | 6531.01 | 6742.12 | 6966.48 | 7205.94 | 7462.76 | 7739.76 | 8040.47 | 8369.44 | 8732.68 | 59 |
| 60 | 6334.84 | 6534.42 | 6745.74 | 6970.34 | 7210.07 | 7467.21 | 7744.57 | 8045.71 | 8375.20 | 8739.06 | 60 |

The Anti-Gudermannian.

| gd u | 81° | 82° | 83° | 84° | 85° | 86° | 87° | 88° | 89° | gd u |
|------|---------|---------|----------|-----------|----------|----------|----------|----------|----------|------|
| 0 | 8739.06 | 9145.46 | 9605.82 | 10136.89 | 10764.62 | 11532.52 | 12522.11 | 13916.43 | 16299.56 | 0 |
| 1 | 8745.46 | 9152.65 | 9614.03 | 10146.46 | 10776.11 | 11546.88 | 12541.27 | 13945.20 | 16357.34 | 1 |
| 2 | 8751.87 | 9159.86 | 9622.27 | 10156.07 | 10787.65 | 11561.31 | 12560.54 | 13974.22 | 16416.11 | 2 |
| 3 | 8758.29 | 9167.08 | 9630.52 | 10165.70 | 10799.22 | 11575.80 | 12579.91 | 14003.48 | 16475.90 | 3 |
| 4 | 8764.73 | 9174.32 | 9638.80 | 10175.37 | 10810.82 | 11590.34 | 12599.40 | 14033.00 | 16536.76 | 4 |
| 5 | 8771.17 | 9181.57 | 9647.09 | 10185.05 | 10822.47 | 11604.95 | 12619.00 | 14062.77 | 16598.69 | 5 |
| 6 | 8777.63 | 9188.84 | 9655.40 | 10194.77 | 10834.16 | 11619.62 | 12638.70 | 14092.80 | 16661.78 | 6 |
| 7 | 8784.10 | 9196.13 | 9663.74 | 10204.51 | 10845.89 | 11634.36 | 12658.53 | 14123.09 | 16726.04 | 7 |
| 8 | 8790.58 | 9203.42 | 9672.09 | 10214.28 | 10857.65 | 11649.16 | 12678.46 | 14153.66 | 16791.53 | 8 |
| 9 | 8797.08 | 9210.74 | 9680.47 | 10224.08 | 10869.46 | 11664.02 | 12698.52 | 14184.49 | 16858.29 | 9 |
| 10 | 8803.58 | 9218.07 | 9688.86 | 10233.90 | 10881.31 | 11678.94 | 12718.69 | 14215.61 | 16926.36 | 10 |
| 11 | 8810.10 | 9225.41 | 9697.28 | 10243.75 | 10893.20 | 11693.93 | 12738.98 | 14247.01 | 16995.81 | 11 |
| 12 | 8816.63 | 9232.77 | 9705.71 | 10253.64 | 10905.13 | 11708.99 | 12759.39 | 14278.70 | 17066.70 | 12 |
| 13 | 8823.17 | 9240.15 | 9714.17 | 10263.54 | 10917.10 | 11724.11 | 12779.92 | 14310.68 | 17139.09 | 13 |
| 14 | 8829.73 | 9247.54 | 9722.64 | 10273.48 | 10929.11 | 11739.30 | 12800.58 | 14342.97 | 17213.03 | 14 |
| 15 | 8836.30 | 9254.95 | 9731.14 | 10283.45 | 10941.17 | 11754.56 | 12821.36 | 14375.56 | 17288.57 | 15 |
| 16 | 8842.88 | 9262.37 | 9739.66 | 10293.45 | 10953.26 | 11769.88 | 12842.26 | 14408.46 | 17365.83 | 16 |
| 17 | 8849.47 | 9269.81 | 9748.20 | 10303.47 | 10965.40 | 11785.27 | 12863.30 | 14441.68 | 17444.87 | 17 |
| 18 | 8856.07 | 9277.27 | 9756.76 | 10313.53 | 10977.59 | 11800.73 | 12884.46 | 14475.23 | 17525.77 | 18 |
| 19 | 8862.69 | 9284.74 | 9765.34 | 10323.61 | 10989.81 | 11816.26 | 12905.75 | 14509.10 | 17608.63 | 19 |
| 20 | 8869.32 | 9292.23 | 9773.94 | 10333.72 | 11002.08 | 11831.87 | 12927.18 | 14543.31 | 17693.49 | 20 |
| 21 | 8875.96 | 9299.73 | 9782.57 | 10343.86 | 11014.40 | 11847.54 | 12948.74 | 14577.87 | 17780.53 | 21 |
| 22 | 8882.62 | 9307.25 | 9791.21 | 10354.03 | 11026.75 | 11863.28 | 12970.44 | 14612.78 | 17869.83 | 22 |
| 23 | 8889.29 | 9314.79 | 9799.88 | 10364.24 | 11039.15 | 11879.10 | 12992.27 | 14648.04 | 17961.51 | 23 |
| 24 | 8895.97 | 9322.34 | 9808.57 | 10374.47 | 11051.60 | 11894.99 | 13014.25 | 14683.67 | 18055.70 | 24 |
| 25 | 8902.66 | 9329.91 | 9817.28 | 10384.73 | 11064.09 | 11910.95 | 13036.36 | 14719.67 | 18152.55 | 25 |
| 26 | 8909.37 | 9337.49 | 9826.02 | 10395.03 | 11076.63 | 11926.99 | 13058.62 | 14756.05 | 18252.20 | 26 |
| 27 | 8916.09 | 9345.10 | 9834.77 | 10405.35 | 11089.21 | 11943.10 | 13081.02 | 14792.83 | 18354.83 | 27 |
| 28 | 8922.82 | 9352.72 | 9843.55 | 10415.71 | 11101.84 | 11959.29 | 13103.58 | 14830.00 | 18460.62 | 28 |
| 29 | 8929.57 | 9360.35 | 9852.35 | 10426.09 | 11114.52 | 11975.55 | 13126.27 | 14867.57 | 18569.76 | 29 |
| 30 | 8936.33 | 9368.00 | 9861.17 | 10436.51* | 11127.24 | 11991.89 | 13149.12 | 14905.56 | 18682.49 | 30 |
| 31 | 8943.10 | 9375.67 | 9870.02 | 10446.96 | 11140.01 | 12008.31 | 13172.13 | 14943.98 | 18799.03 | 31 |
| 32 | 8949.88 | 9383.36 | 9878.88 | 10457.44 | 11152.82 | 12024.81 | 13195.28 | 14982.83 | 18919.67 | 32 |
| 33 | 8956.68 | 9391.06 | 9887.77 | 10467.95 | 11165.69 | 12041.39 | 13218.60 | 15022.12 | 19044.69 | 33 |
| 34 | 8963.49 | 9398.79 | 9896.69 | 10478.50 | 11178.60 | 12058.05 | 13242.07 | 15061.87 | 19174.44 | 34 |
| 35 | 8970.32 | 9406.53 | 9905.63 | 10489.08 | 11191.56 | 12074.79 | 13265.70 | 15102.08 | 19309.27 | 35 |
| 36 | 8977.16 | 9414.28 | 9914.59 | 10499.69 | 11204.57 | 12091.60 | 13289.50 | 15142.77 | 19449.61 | 36 |
| 37 | 8984.01 | 9422.05 | 9923.57 | 10510.33 | 11217.63 | 12108.51 | 13313.47 | 15183.94 | 19595.92 | 37 |
| 38 | 8990.87 | 9429.84 | 9932.57 | 10521.01 | 11230.74 | 12125.49 | 13337.60 | 15225.62 | 19748.73 | 38 |
| 39 | 8997.75 | 9437.65 | 9941.60 | 10531.71 | 11243.90 | 12142.57 | 13361.90 | 15267.80 | 19908.66 | 39 |
| 40 | 9004.65 | 9445.48 | 9950.66 | 10542.45 | 11257.11 | 12159.72 | 13386.37 | 15310.51 | 20076.39 | 40 |
| 41 | 9011.55 | 9453.32 | 9959.73 | 10553.23 | 11270.37 | 12176.96 | 13411.02 | 15353.76 | 20252.72 | 41 |
| 42 | 9018.47 | 9461.18 | 9968.83 | 10564.04 | 11283.68 | 12194.29 | 13435.85 | 15397.56 | 20438.59 | 42 |
| 43 | 9025.41 | 9469.06 | 9977.96 | 10574.88 | 11297.04 | 12211.71 | 13460.86 | 15441.92 | 20635.09 | 43 |
| 44 | 9032.36 | 9476.96 | 9987.11 | 10585.76 | 11310.46 | 12229.21 | 13486.05 | 15486.86 | 20843.50 | 44 |
| 45 | 9039.32 | 9484.87 | 9996.28 | 10596.67 | 11323.93 | 12246.81 | 13511.43 | 15532.40 | 21065.37 | 45 |
| 46 | 9046.29 | 9492.81 | 10005.48 | 10607.62 | 11337.45 | 12264.49 | 13537.00 | 15578.55 | 21302.55 | 46 |
| 47 | 9053.28 | 9500.76 | 10014.70 | 10618.60 | 11351.02 | 12282.26 | 13562.75 | 15625.32 | 21557.31 | 47 |
| 48 | 9060.29 | 9508.73 | 10023.95 | 10629.61 | 11364.65 | 12300.13 | 13588.71 | 15672.75 | 21832.48 | 48 |
| 49 | 9067.31 | 9516.71 | 10033.22 | 10640.67 | 11378.33 | 12318.09 | 13614.85 | 15720.83 | 22131.60 | 49 |
| 50 | 9074.34 | 9524.72 | 10042.52 | 10651.75 | 11392.06 | 12336.15 | 13641.20 | 15769.59 | 22459.26 | 50 |
| 51 | 9081.39 | 9532.74 | 10051.84 | 10662.87 | 11405.85 | 12354.30 | 13667.75 | 15819.06 | 22821.46 | 51 |
| 52 | 9088.45 | 9540.79 | 10061.19 | 10674.03 | 11419.70 | 12372.54 | 13694.52 | 15869.25 | 23220.39 | 52 |
| 53 | 9095.52 | 9548.85 | 10070.56 | 10685.22 | 11433.60 | 12390.89 | 13721.48 | 15920.19 | 23685.42 | 53 |
| 54 | 9102.61 | 9556.93 | 10079.96 | 10696.46 | 11447.56 | 12409.33 | 13748.67 | 15971.89 | 24215.55 | 54 |
| 55 | 9109.72 | 9565.03 | 10089.38 | 10707.72 | 11461.58 | 12427.87 | 13776.07 | 16024.38 | 24842.12 | 55 |
| 56 | 9116.84 | 9573.15 | 10098.83 | 10719.03 | 11475.65 | 12446.51 | 13803.68 | 16077.68 | 25609.23 | 56 |
| 57 | 9123.97 | 9581.29 | 10108.30 | 10730.37 | 11489.78 | 12465.26 | 13831.53 | 16131.82 | 26598.21 | 57 |
| 58 | 9131.12 | 9589.45 | 10117.81 | 10741.75 | 11503.97 | 12484.10 | 13859.60 | 16186.83 | 27992.10 | 58 |
| 59 | 9138.28 | 9597.62 | 10127.33 | 10753.17 | 11518.21 | 12503.05 | 13887.90 | 16242.74 | 30374.96 | 59 |
| 60 | 9145.46 | 9605.82 | 10136.89 | 10764.62 | 11532.52 | 12522.11 | 13916.43 | 16299.56 | ∞ | 60 |

TABLE VIII

CONVERSION OF RADIANs INTO ANGULAR MEASURE AND VICE VERSA

Conversion of Angular Measure into Radians.

| n | Radians for n degrees | Radians for n minutes | Radians for n seconds | n | Radians for n degrees |
|----|-----------------------|-----------------------|-----------------------|-----|-----------------------|
| 1 | 0.01745 32925 2 | 0.00029 08882 1 | 0.00000 48481 4 | 61 | 1.06465 08437 2 |
| 2 | .03490 65850 4 | .00058 17764 2 | .00000 96962 7 | 62 | .08210 41362 4 |
| 3 | .05235 98775 6 | .00087 26646 3 | .00001 45444 1 | 63 | .09955 74287 6 |
| 4 | .06981 31700 8 | .00116 35528 3 | .00001 93925 5 | 64 | .11701 07212 8 |
| 5 | 0.08726 64626 0 | 0.00145 44410 4 | 0.00002 42406 8 | 65 | 1.13446 40138 0 |
| 6 | .10471 97551 2 | .00174 53292 5 | .00002 90888 2 | 66 | .15191 73063 2 |
| 7 | .12217 30476 4 | .00203 62174 6 | .00003 39369 6 | 67 | .16937 05988 4 |
| 8 | .13962 63401 6 | .00232 71056 7 | .00003 87850 9 | 68 | .18682 38913 6 |
| 9 | .15707 96326 8 | .00261 79938 8 | .00004 36332 3 | 69 | .20427 71838 8 |
| 10 | 0.17453 29252 0 | 0.00290 88820 9 | 0.00004 84813 7 | 70 | 1.22173 04764 0 |
| 11 | .19198 62177 2 | .00319 97703 0 | .00005 33295 0 | 71 | .23918 37689 0 |
| 12 | .20943 95102 4 | .00349 06585 0 | .00005 81776 4 | 72 | .25663 70614 4 |
| 13 | .22689 28027 6 | .00378 15467 1 | .00006 30257 8 | 73 | .27409 03539 6 |
| 14 | .24434 60952 8 | .00407 24349 2 | .00006 78739 2 | 74 | .29154 36464 8 |
| 15 | 0.26179 93878 0 | 0.00436 33231 3 | 0.00007 27220 5 | 75 | 1.30899 69390 0 |
| 16 | .27925 26803 2 | .00465 42113 4 | .00007 75701 9 | 76 | .32645 02315 2 |
| 17 | .29670 59728 4 | .00494 50995 5 | .00008 24183 3 | 77 | .34390 35240 4 |
| 18 | .31415 92653 6 | .00523 59877 6 | .00008 72664 6 | 78 | .36135 68165 6 |
| 19 | .33161 25578 8 | .00552 68759 6 | .00009 21146 0 | 79 | .37881 01090 8 |
| 20 | 0.34906 58504 0 | 0.00581 77641 7 | 0.00009 69627 4 | 80 | 1.39626 34016 0 |
| 21 | .36651 91429 2 | .00610 86523 8 | .00010 18108 7 | 81 | .41371 66941 2 |
| 22 | .38397 24354 4 | .00639 95405 9 | .00010 66590 1 | 82 | .43116 99866 4 |
| 23 | .40142 57279 6 | .00669 04288 0 | .00011 15071 5 | 83 | .44862 32791 6 |
| 24 | .41887 90204 8 | .00698 13170 1 | .00011 63552 8 | 84 | .46607 65716 8 |
| 25 | 0.43633 23130 0 | 0.00727 22052 2 | 0.00012 2034 2 | 85 | 1.48352 98642 0 |
| 26 | .45378 56055 2 | .00756 30934 3 | .00012 69515 6 | 86 | .50098 31567 2 |
| 27 | .47123 88980 4 | .00785 39816 3 | .00013 08996 9 | 87 | .51843 64492 4 |
| 28 | .48869 21905 6 | .00814 48698 4 | .00013 57478 3 | 88 | .53588 97417 6 |
| 29 | .50614 54830 8 | .00843 57580 5 | .00014 05959 7 | 89 | .55334 30342 7 |
| 30 | 0.52359 87756 0 | 0.00872 66462 6 | 0.00014 54441 0 | 90 | 1.57079 63267 9 |
| 31 | .54105 20681 2 | .00901 75344 7 | .00015 02922 4 | 91 | .58824 96193 1 |
| 32 | .55850 53606 4 | .00930 84226 8 | .00015 51403 8 | 92 | .60570 29118 3 |
| 33 | .57595 86531 6 | .00959 93108 9 | .00015 99885 1 | 93 | .62315 62043 5 |
| 34 | .59341 19456 8 | .00989 01990 9 | .00016 48366 5 | 94 | .64060 94968 7 |
| 35 | 0.61086 52382 0 | 0.01018 10873 0 | 0.00016 96847 9 | 95 | 1.65806 27893 9 |
| 36 | .62831 85307 2 | .01047 19755 1 | .00017 45329 3 | 96 | .67551 60819 1 |
| 37 | .64577 18232 4 | .01076 28637 2 | .00017 93810 6 | 97 | .69296 93744 3 |
| 38 | .66322 51157 6 | .01105 37519 3 | .00018 42292 0 | 98 | .71042 26669 5 |
| 39 | .68067 84082 8 | .01134 46401 4 | .00018 90773 4 | 99 | .72787 59594 7 |
| 40 | 0.69813 17008 0 | 0.01163 55283 5 | 0.00019 39254 7 | 100 | 1.74532 92519 9 |
| 41 | .71558 49933 2 | .01192 64165 6 | .00019 87736 1 | 110 | .91986 21771 9 |
| 42 | .73303 82858 4 | .01221 73047 6 | .00020 36217 5 | 120 | 2.09439 51023 9 |
| 43 | .75049 15783 6 | .01250 81929 7 | .00020 84698 8 | 130 | .26892 80275 9 |
| 44 | .76794 48708 8 | .01279 90811 8 | .00021 33180 2 | 140 | .44346 09527 9 |
| 45 | 0.78539 81634 0 | 0.01308 99693 9 | 0.00021 81661 6 | 150 | 2.61799 38779 9 |
| 46 | .80285 14559 2 | .01338 08576 0 | .00022 30142 9 | 160 | .79252 68031 9 |
| 47 | .82030 47484 4 | .01367 17458 1 | .00022 78624 3 | 170 | .96705 97283 9 |
| 48 | .83775 80409 6 | .01396 26340 2 | .00023 27105 7 | 180 | 3.14159 26535 9 |
| 49 | .85521 13334 8 | .01425 35222 2 | .00023 75587 0 | 190 | .31612 55787 9 |
| 50 | 0.87266 46260 0 | 0.01454 44104 3 | 0.00024 24068 4 | 200 | 3.49065 85039 9 |
| 51 | .89011 79185 2 | .01483 52986 4 | .00024 72549 8 | 210 | .66519 14291 9 |
| 52 | .90757 12110 4 | .01512 61868 5 | .00025 21031 1 | 220 | .83972 43543 9 |
| 53 | .92502 45035 6 | .01541 70750 6 | .00025 69512 5 | 230 | 4.01425 72795 9 |
| 54 | .94247 77960 8 | .01570 79632 7 | .00026 17993 9 | 240 | .18879 02047 9 |
| 55 | 0.95993 10886 0 | 0.01599 88514 8 | 0.00026 66475 2 | 250 | 4.36332 31299 9 |
| 56 | .97738 43811 2 | .01628 97396 9 | .00027 14956 6 | 260 | .53785 60551 9 |
| 57 | .99483 76736 4 | .01658 06278 9 | .00027 63438 0 | 270 | .71238 89803 8 |
| 58 | 1.01229 09661 6 | .01687 15161 0 | .00028 11919 4 | 300 | 5.23598 77559 8 |
| 59 | .02974 42586 8 | .01716 24043 1 | .00028 60400 7 | 330 | .75958 65315 8 |
| 60 | 1.04719 75512 0 | 0.01745 32925 2 | 0.00029 08882 1 | 360 | 6.28318 53071 8 |

Conversion of Radians into Angular Measure.

| Radians | Angle | | | Radians | Angle | | |
|---------|-------|----|-------------|---------|-------|-------------|--------------|
| 0.1 | 05 | 43 | 46.48062 47 | 0.006 | 0 | 20 | 37.58883 75 |
| 0.2 | 11 | 27 | 32.96124 94 | .007 | | 24 | 03.85364 37 |
| 0.3 | 17 | 11 | 19.44187 41 | .008 | | 27 | 30.11845 00 |
| 0.4 | 22 | 55 | 05.92249 88 | .009 | | 30 | 56.38325 62 |
| 0.5 | 28 | 38 | 52.40312 35 | 0.0100 | 0 | 34 | 22.64806 25 |
| 0.6 | 34 | 22 | 38.88374 83 | .0001 | | 00 | 20.62648 06 |
| 0.7 | 40 | 06 | 25.36437 30 | .0002 | | 00 | 41.25296 12 |
| 0.8 | 45 | 50 | 11.84499 77 | .0003 | 01 | 01.87944 19 | |
| 0.9 | 51 | 33 | 58.32562 24 | .0004 | 01 | 22.50592 25 | |
| 1.00 | 57 | 17 | 44.80624 71 | 0.0005 | 0 | 01 | 43.13240 31 |
| 0.01 | 00 | 34 | 22.64806 25 | .0006 | | 02 | 03.75888 37 |
| 0.02 | 01 | 08 | 45.29612 49 | .0007 | | 02 | 24.38536 44 |
| 0.03 | 01 | 43 | 07.94418 74 | .0008 | | 02 | 45.01184 50 |
| 0.04 | 02 | 17 | 30.59224 99 | .0009 | | 03 | 05.63832 56 |
| 0.05 | 02 | 51 | 53.24031 24 | 0.00100 | 0 | 03 | 26.26480 625 |
| 0.06 | 03 | 26 | 15.88837 48 | .00001 | | 00 | 02.06264 806 |
| 0.07 | 04 | 00 | 38.53643 73 | .00002 | | 00 | 04.12529 612 |
| 0.08 | 04 | 35 | 01.18449 98 | .00003 | | 00 | 06.18794 419 |
| 0.09 | 05 | 09 | 23.83256 22 | .00004 | | 00 | 08.25059 225 |
| 0.100 | 05 | 43 | 46.48062 47 | 0.00005 | 0 | 00 | 10.31324 031 |
| 0.001 | 00 | 03 | 26.26480 62 | .00006 | | 00 | 12.37588 837 |
| 0.002 | 00 | 06 | 52.52961 25 | .00007 | | 00 | 14.43853 644 |
| 0.003 | 00 | 10 | 18.79441 87 | .00008 | | 00 | 16.50118 450 |
| 0.004 | 00 | 13 | 45.05922 50 | .00009 | | 00 | 18.56383 256 |
| 0.005 | 00 | 17 | 11.32403 12 | 0.00010 | 0 | 00 | 20.62648 062 |

SMITHSONIAN TABLES

Numerical Constants.

| | |
|---|--|
| $\log_{10} 2 = 0.30102 \ 99956 \ 63981$ | $\frac{1}{\sqrt{\pi}} = 0.56418 \ 95835 \ 47756$ |
| $\log_e 2 = 0.69314 \ 71805 \ 59945$ | $\log_{10} \frac{1}{\sqrt{\pi}} = 9.75142 \ 50636 \ 52933$ |
| $\log_{e10} = 2.30258 \ 50929 \ 94046$ | $\sqrt{\frac{\pi}{2}} = 1.25331 \ 41373 \ 15500$ |
| $e = 2.71828 \ 18284 \ 59045$ | $\sqrt{\frac{2}{\pi}} = 0.79788 \ 45608 \ 02865$ |
| $\log_{10} e = 0.43429 \ 44819 \ 03252$ | $\log_{10} \sqrt{\frac{2}{\pi}} = 9.90194 \ 00614 \ 84924$ |
| $\log_{10} \log_{10} e = 9.63778 \ 43113 \ 00537$ | 1 radian = 206264.80624 70964 seconds |
| $\pi = 3.14159 \ 26535 \ 89793$ | = 3437.74677 07849 minutes |
| $\log_{10} \pi = 0.49714 \ 98726 \ 94134$ | = 57.29577 95131 degrees |
| $\log_e \pi = 1.14472 \ 98858 \ 49400$ | $\log_{10} 206264.80625 = 5.31442 \ 51332$ |
| $\frac{1}{\pi} = 0.31830 \ 98861 \ 83791$ | |
| $\pi^2 = 9.86960 \ 44010 \ 89359$ | |
| $\frac{1}{\pi^2} = 0.10132 \ 11836 \ 42338$ | |
| $\sqrt{\frac{1}{\pi}} = 1.77245 \ 38509 \ 05516$ | |

SMITHSONIAN TABLES

SMITHSONIAN MATHEMATICAL TABLES

HYPERBOLIC FUNCTIONS

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